



Internal Audit

End User Computing Review 2013

(20 June 2013)

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Executive Summary

The scope of this review is to assess the use of End User Computing (EUC) – where Statistics NZ is now and what is ahead. It identifies future risks and opportunities, and assesses the appropriateness of strategy, plans, tools, and resources to provide end user computing as part of the 10 year whole of organisation transformation programme.

This report is on a technical IT subject, and therefore contains technical IT language. The Executive Summary has been written for a more general audience than the body of the report, which is intended for IT and methodological staff within Statistics NZ.

This review finds that the strategies in place to deliver the End User Computing tools by which non-programmers can carry out their duties to deliver statistical outputs are in the most part appropriate.

In the current state, there are instances where generic legacy and unsupported applications are in use, which are integrated to individual business unit functions and outputs. In many cases, the end user is required to apply programming skills in the use of tools in order to effectively complete their work. This leads to support, sustainability and management challenges based on the flexibility that it implies.

There is an organisation wide technology plan in the form of an Enterprise Architecture which connects business needs to the tools required to deliver statistical outputs. Through wide consultation it 'identifies IT enabled capabilities that can be standardised and reused across the organisation' and evaluates 'emerging technologies'. There is a high level of communication and education of users on the over-arching technology plans and strategies.

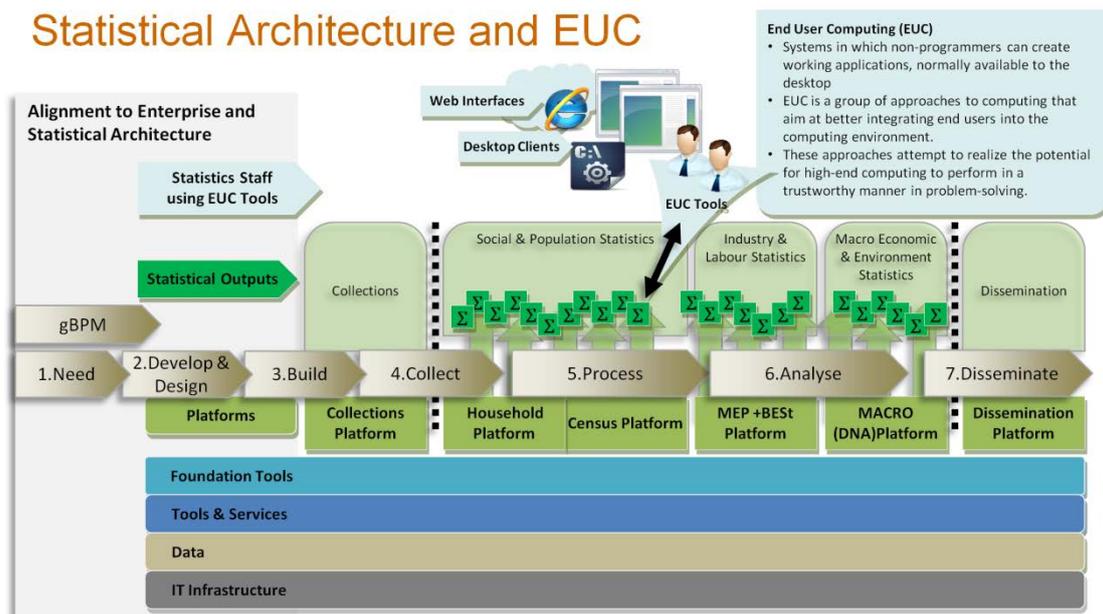
The IT Strategy has evolved over time and has a number of supporting policies, guidelines and forums. These policies and guidelines have introduced disciplines and promoted ownership by the business of systems and applications for which they are the sole or main user. The IT Solutions strategy promotes ownership and accountability for IT systems back into the business. This strategy is not intended to avoid IT responsibility, but is more commonly used in industry best practice to ensure that the user community at senior levels shares interest in their IT infrastructure.

The reviewer expected to confirm that implementing the Enterprise Architecture will result in the tools and applications used at the desktop and other end user devices, providing an appropriate End User Computing environment. That environment will support the transformed methods of delivering statistical outputs. This expectation was based on early

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evidence which suggested that the level of maturity of the long term IT strategy was high. Having completed the review, I find that this expectation has been met and is valid.

A hierarchy of documents build a picture connecting the organisational strategy with an IT vision, consider external and internal influences, and describe a Statistical Architecture. This Statistical Architecture describes business outcomes in terms of technology, and groups or 'clusters' stages in the generic Business Process Model as 'Platforms' which are aligned to organisation functions. Language used in the documents is clear and in keeping with the Stats 2020 transformational direction.



The diagram above shows the layers of the Enterprise Architecture and how they align with the generic Business Process Model to deliver statistical outputs using End User Computing tools provided through platforms.

The platforms are at various states of implementation. At this stage some platforms are well established, some are a collection of legacy applications, and some are collections in that their outputs are produced by standalone and bespoke applications which are logically grouped to reflect the future EA blueprint. There are roadmaps and change programmes which describe a plan of change from current state to a stage where no more legacy applications are used and where the Enterprise Architecture has been fully implemented. Those roadmaps extend through to 2018.

There is a top down transformational change approach and a bottom up methodical approach to cleaning up the legacy environment. This has been made practical through the implementation of a Windows 7 common operating environment (implemented between 2010

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and 2012) and associated policy enforcement, and the Legacy Mitigation programme. Both of these measures provide general control to prevent unapproved EUC applications from being installed in the network and undermining the overall strategy.

The approach taken on the Legacy Mitigation programme was reviewed and found to be effective. There is a level of engagement with the business and there is evidence of informal but repeatable process. The programme would benefit from revising its communications strategy to raise its profile and this has been provisionally planned for July 2013. Publication and reporting on progress was found to be acceptable, but would benefit from more categorisation to provide visibility and ensure that any trade off of responsibilities (i.e. to business led changes) are transparent.

Platform ownership is assigned to the relevant business area and delegated to a Tier 3 manager. A platform may also be delivering functions to other business units. This requires cooperation and a wide degree of communication and trade-off.

There is an established forum for Business Platform Owners that meets on a regular basis. It is attended by the majority of the responsible owners and is used as an informal communication channel. It has more recently been used as a vehicle for the wider business to engage with platform owners as a group on current and future issues. The forum members have recognised that they would benefit from more structure and purpose, and this review has provided some proposed agenda items for consideration. This review also considered the role of the platform owner, including what to expect in terms of service delivery from IT Solutions and the need to solicit feedback from the wider community of platform users. It should be recognised that not all platforms are the same size, and process and communication flow needs to be tailored for each platform whilst considering the overall organisation wide strategic priorities of sustainability and efficiencies of centralised functions.

Recent work in the Review of Architectures, Clusters and Statistical Models Project, within the Statistical Infrastructure Programme, has identified a method of measuring the level of standardisation in the delivery of statistical outputs. This work highlights that there is currently a limited view, and no organisation wide measurement of the level of standardisation and platform implementation and adoption. The project itself has only reviewed a small portion of the Micro Economic Processing platform and is currently under resourced and low in priority. The future of EUC is dependent on the delivery of an implemented Enterprise Architecture blueprint with standardised delivery of outputs. Considering the extended term of the programme of transformation, a measure of standardisation should be established as a baseline to monitor transformational delivery.

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The IT Strategy does identify the need to extend performance metrics. This aligns with several of the identified goals and planned work for 2013/14 as well as considering requirements of the BASS (Better Administrative and Support Services) programme. There is an opportunity to consider customer facing and output driven performance reporting. In addition to considering standardisation and Activity Based Costing, the metrics review should consider approaches like DIFOT (Delivered in Time on Full) or OTIF (On Time in Full) which are used in supply change performance measurement to represent end to end service delivery in terms of products or outputs. This alignment would focus attention on the outputs for which Statistics NZ is funded.

The governance of project delivery is light, with the Enterprise Architecture Team having to actively direct projects to maintain focus on each new design aligning with the longer term Enterprise Architecture Blueprint. Once a project moves to later stages, Quality Management processes are applied, which require approval from the Enterprise Architecture Manager before implementation. The Architectural Review and Standards Governance Boards review standardisation and alignment with long term enterprise wide plans. However, awareness of these forums and their role in governance is variable across the business. This means that Statistics NZ relies heavily on steering committees and management functions catching expectations instead of project outputs being managed and tracked through Project and Programme governance.

Documentation is hard to find. Information relating to latest documentation and process relies heavily on knowledge sharing and networks. Culture supports this but it can be an inefficient model. From informal engagement with Statistics NZ this would appear to be a widely supported view. Information architecture is heavily nested and complex to navigate. It may be fairly straight forward to find some material related to a particular subject, but it is often the case that other relevant material is stored in other locations which may lead to duplication. This factor has added considerable complexity and time to this review.

In summary, this review finds that the IT strategies in place are suitable and appropriate, consider relevant external factors, and align well with the whole of organisation transformation programme. In order to deliver an effective End User Computing environment for the future, additional measurement of progress in the context of statistical outputs and standardisation, in conjunction with additional governance control at key decision points, would provide better assurance on alignment with organisational plans.

Purpose

The purpose of this review is to provide assurance to the Government Statistician that the strategies, plans, tools and resources in place for End User Computing are appropriate and sufficient as part of the 10 year whole of organisation transformation programme.

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Background

This review was included in the recommendations of the 'IT Stocktake Review 2009' conducted by [REDACTED]. This review was prioritised by the CIO from that list of recommendations.

Scope of Review

The review evaluates and comments on:

- where Statistics NZ is now with End User Computing
- what is ahead of Statistics NZ
- what current and future risks and opportunities can be identified
- are Statistics NZ's strategy, plans, tools, resources, etc. appropriate and sufficient for the successful use of end user computing as part of the 10 year whole-of organisation transformation programme.

The review was performed by [REDACTED], Assurance Consultant (General Manager – Assurance) of Qual IT Solutions Ltd on behalf of [REDACTED], Internal Auditor

Key to abbreviations

Definition (as required)

EUC	End User Computing	<i>End-user computing (EUC) refers to systems in which non-programmers can create working applications. EUC is a group of approaches to computing that aim at better integrating end users into the computing environment. These approaches attempt to realize the potential for high-end computing to perform in a trustworthy manner in problem-solving</i>
EA	Enterprise Architecture	<i>Enterprise architecture (EA) is the process of translating business vision and strategy into effective enterprise change by creating, communicating and improving the key requirements, principles and models that describe the enterprise's future state and enable its evolution</i>
DIFOT/OTIF	Delivered in Full on Time/ On Time in Full	<i>These are terms used often used in supply chain management to express performance in terms of end to end service delivery.</i>
SparxEA		<i>Sparx Systems Enterprise Architect is a visual modelling and design tool used by businesses and organizations to not only model the architecture of their systems, but to process the implementation of these models across the full application development life-cycle</i>
MEP	<i>Micro Economic Processing Platform</i>	
Agile		<i>a group of software development methods based on iterative and incremental development, where requirements and solutions evolve through collaboration</i>

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DSL		<i>Definitive Software Library</i>
CARS	Classifications and Related Standards	<i>This is the central repository for all the classifications, concordances and code files used by collections within Statistics NZ.</i>

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ACTION PLAN – Organisation Development Group						
Ref	Recommendation	Residual Risk Rating*	Group Response	Person Responsible	Priority	Target Date
1	That the CIO initiates a review of the “Scope, responsibility and secure use of our IT Environment“ Policy to include reference to the Enterprise Architecture at a high level to explain to new employees the reasons for not attempting to deviate from the standard operating environment.	Moderate	Agreed.	CIO	3	TBC
2	The Programme Manager, IT Investment Plan reviews the status of the outstanding actions from the Windows 7 Project Closure Report by 1 August 2013 to ensure they have been addressed.	Moderate	Agreed.	Programme Manager, IT Investment Plan	3	TBC
3	That the CIO initiates a review of the Software Ownership Framework with a view to direct inclusion of applications and platforms to ensure consistent ownership responsibilities are established and include the commitment and scope of the DSL. This may result in the creation of additional framework(s).	Moderate	Agreed.	CIO	2	TBC
4	That the CIO directs that the outstanding Platform Roadmaps are published and base lined and that annual review of all Roadmaps is monitored.	Moderate	Agreed.	CIO	2	TBC
5	That the CIO initiates a review of how Information Management strategies are applied in IT Solutions to communicate complex end to end concepts like Enterprise Architecture and delivery processes. This should consider the inflight work in the capture of documentation in SparxEA , SmartMethod and Team Foundation Server and ensure that information is practically accessible to the wider audience.	Moderate	Agreed.	CIO	2	TBC
6	That the CIO includes customer or service delivery metrics (DIFOT) in the IT metrics review to measure service performance to the business units.	Moderate	Agreed.	CIO	2	TBC
7	The CIO initiates a review of the Legacy Mitigation Programme Communications Plan including monthly reporting on progress to a level of granularity which is appropriate for the wider audience.	Moderate	Agreed.	CIO	3	TBC

ACTION PLAN – Standards and Methods Group						
Ref	Recommendation	Residual Risk Rating*	Group Response	Person Responsible	Priority	Target Date
8	That DGS Standards and Methods raises the priority and focus of the Review of Architectures, Clusters and Statistical Models (or its replacement). It should provide a measurement baseline of the level of standardisation applied on each platform considering the adoption of the Business Platforms and alignment with EA. This measure should also be fed into the transformational programme to track progress.	Moderate	Agreed.	TBA	2	TBC

ACTION PLAN – Transformation Group						
Ref	Recommendation	Residual Risk Rating*	Group Response	Person Responsible	Priority	Target Date
9	That the DGS Transformation ensures there are appropriate control points throughout the project delivery cycle, especially at the early stages and pre-launch to ensure that the IT component of a project aligns with the enterprise architecture.	Moderate	Agreed.	Manager Transformation Office	2	TBC

ACTION PLAN – Organisation Direction Group

Ref	Recommendation	Residual Risk Rating*	Group Response	Person Responsible	Priority	Target Date
10	The Internal Auditor considers including in the 2013/14 Internal Audit Work Programme a sample controls review of a small selection of projects to identify the depth of compliance.	Moderate	Agree	Internal Auditor	3	30.9.13

* Related Strategic Priority: SP4: Sustainable organisation.

* Related Strategic Risk: SR3: Not achieving the comprehensive transformation promised (End User Computing)

Findings

1. Policies on Software Usage and Installation

1.1 Expectations

I expected to see policies relating to the use and installation of software in the end user computing environment that are appropriate, applied and enforced.

1.2 Findings Summary

Findings in this section relate to three key areas which are expanded in further detail:

1. IT policies were found to be in place.
2. A common operating environment has recently been implemented to provide a baseline for the transition to the target Enterprise Architecture and future End User Computing environment.
3. Ownership and responsibility for software that is in use is documented and is in line with good practice.

1.3 Detailed Findings

1.3.1 General IT Policies

There are a family of connected policies which provide appropriate control around the management, ownership and deployment of software and hardware. There is an IT security policy ("Scope, responsibility and secure use of our IT Environment") which is issued to all employees during induction and there is the overarching "Software and Applications Usage and Management Policy".

Access to software is limited to that provided in the standard image (the set of software tools and in-house applications that are deployed to all Statistics NZ staff), as deployed in the Windows7 refresh. This is enforced from within the network software as part of the Windows Group Policy and applied through Active Directory and supporting IT security software. A practical test of the group policy, at the desktop, confirmed that an unapproved executable could not be downloaded from the internet or installed.

The relevant policies are highlighted in the introduction of the Software and Applications Usage and Management Policy, which has been included here for reference. The content and tone of these policies is appropriate. However there is no reference in the "Scope, responsibility and secure use of our IT Environment" Policy to the Enterprise Architecture, even at a high level, to set the expectation and explain the underlying reasons for control:

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The following guidelines are aimed at protecting the integrity of data, keeping the IT environment free of malicious software, ensuring we safeguard our intellectual property and complying with the laws of New Zealand, such as copyright restrictions.

*Introduction to **Software and Applications Usage and Management Policy***

This (2011) policy updates and consolidates:

- *the previous **Software Use Policy** - approved in 2001*
- *the **Guidelines for introducing software** - published in 2005*
- *and ownerships principles outlined in the **Software Ownership Framework** - paper to ITAG in November 2008 (These Principles were introduced in **Software Ownership Discussion Paper** - presented to CMC in June 2007)*

This Policy was developed in consultation with the Software Owners Forum - through 2011, and endorsed by the IT Advisory Board in April 2012.

*This Policy supplements the **Scope, responsibility and secure use of our IT Environment Policy**, and supports the **Software Ownership Framework***

This Policy is managed by IT Solutions on behalf of Statistics New Zealand.

Approved on: 21/12/2012, Review Due: 21/12/2013

Recommendation 1

That the CIO initiates a review of the “Scope, responsibility and secure use of our IT Environment“ Policy to include reference to the Enterprise Architecture at a high level to explain to new employees the reasons for not attempting to deviate from the standard operating environment.

1.3.2 Standard Operating Environment

Statistics NZ initiated and completed a Standard Operating Environment project within the Capability Portfolio. The Windows 7 66207.17 project started in July 2010 and ran through to October 2012.

The majority of benefits claimed by this project relate to supportability and sustainability of the desktop operating system. The most relevant but intangible benefit (in the context of this review) is that the project applied an updated standard operating environment which can be used as a baseline to support the transition to the target Enterprise Architecture.

A closure report was issued with a list of outstanding actions which have been assigned owners and are being worked through to closure. Exceptions have been managed or mitigated appropriately. There are five remaining actions which need to be confirmed as cleared.

Recommendation 2

The Programme Manager, IT Investment Plan reviews the status of the outstanding actions from the Windows 7 Project Closure Report by 1 August 2013 to ensure they have been addressed.

1.3.3 Software Ownership

There is a mature discussion (documented back to June 2007) on the principles of software ownership. This has been under discussion at IT Advisory Board since November 2008. A Software Ownership Forum was established formally in June 2010 with agreement to sit quarterly.

There is a strategy of promoting ownership by business unit managers for systems and applications of which they are the sole or main user. By promoting ownership and accountability for IT systems back into the business this is intended not to avoid IT responsibility, but to ensure that the user community at senior levels shares interest in their IT infrastructure, and has clear influence on operational and strategic decisions relating to their IT systems. This is accepted as good practice.

The Software Ownership Forum has been established and sat until September 2011, then due to other initiatives taking priority did not sit for 18 months. It recently reconvened - the fifth meeting was held on 22 May 2013 and there is commitment to continue.

Principles of software ownership are now well established, but although platform ownership obligations are implied in the framework, they have not yet been applied. A platform is essentially a collection of applications, with its presentation layer being software or an application which determines the way it calls/consumes/uses other applications. Therefore all constituent applications should be subject to the same framework as their platform.

The Software Ownership Framework recognises platform and generic applications however does not directly address responsibilities. It states that 'For most in-house applications the ownership responsibilities of the associated business owner are already established.' Some ambiguity exists in who has the responsibilities for platforms. In discussion with the IT Portfolio Director, reviewing the Software Ownership responsibilities with platform owners is planned for later in 2013 and is part of the IT Strategy implementation plan.

Ownership of software and applications is listed (by name or position) in a central database called the 'Definitive Software Library' (DSL). This includes information relating to the applications, licencing arrangements, support information including packaging and server location, as well as a Lifecycle classification (Discovery, Emerging, Current, Legacy and

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Graveyard). In addition there is a 'point of difference' field which is intended to justify the additional software as part of the approval process.

This database is not complete with some fields not populated. Not all deployed software is recorded in the DSL (this is apparent from numerous DSL updates managed by the Legacy Mitigation Programme). For these reasons it cannot be considered a reliable source for configuration or software management. The identification of named individuals as owners of software applications contravenes the Software Ownership Framework principles.

The term DSL is often used as part of Information Technology Infrastructure Library (ITIL) practices and is extended to include:

'A secure location, consisting of physical media or a software repository located on a network file server, in which the definitive authorized versions of all software configuration items (CIs) are stored and protected... All related documentation, related to any software stored in the DSL, is also stored in the DSL' from http://en.wikipedia.org/wiki/Definitive_Software_Library

The software itself is stored in separate locations each of which are subject to different controls. In house developed applications use Team Foundation Server as a repository and are promoted to production through an internally developed Change and Release Management Lotus Notes workflow/database. Other development platforms (such as Lotus Notes) use their own environments to manage the source code.

The DSL is not a full Configuration Management Database (CMDB) and does not trace application installations through to statistics business outcome. It is noted that might not be a practical or cost effective outcome, but should that level of granularity relating to end to end service management be required, it is a potential home. At present visibility of end to end service delivery over IT systems in the context of statistical outputs is not available.

Recommendation 3

That the CIO initiates a review of the Software Ownership Framework with a view to direct inclusion of applications and platforms to ensure consistent ownership responsibilities are established and include the commitment and scope of the DSL. This may result in the creation of additional framework(s).

2. Enterprise technology plan and architecture

2.1 Expectations

I expected to see evidence of an enterprise technology plan and architecture, considering organisation penetration (specifically governance) and overall state of implementation, which describes the future desired state of End User Computing.

2.2 Findings Summary

There is a well written IT Strategy and Implementation Plan, supported by an Enterprise Architecture blueprint. Several documents in the document family (platform roadmaps) have not been published or are overdue for review. If implemented, the EA will deliver an appropriate EUC environment.

2.3 Detailed Findings

There is an organisation wide technology plan and strategy, supported by a series of documents. There is an Enterprise Architecture (EA) which is based on a shared-services/common use applications approach and is supported by a 'strategy of identifying and delivering capability via tools and services that that are standardised, centralised and shared'. The EA connects business needs to the tools required to deliver statistical outputs. Through a number of external reviews and wide consultation it 'identifies IT enabled capabilities that can be standardised and reused across the organisation' and evaluates 'emerging technologies'.

The EA Blueprint is based on the concept of a Statistical Architecture which describes business outcomes in terms of technology, and groups or 'clusters' stages in the generic Business Process Model as 'Platforms' which are aligned to organisation functions. This directly aligns to the generic Business Process Model (gBPM) which is the accepted operating model.

Considerations and reference to external influences are being monitored or contributed to as appropriate. Those influences include Government ICT initiatives such as Desktop as a Service and Infrastructure as a Service (DaaS and IaaS), and the impact of cloud computing, and the Better Administrative and Support Services (BASS) programme.

The EA blueprint demonstrates alignment with all four Strategic Priorities from the Strategic Plan 2010-2020, with direct connection to the strategic priorities and the Statistics 2020 Te Kāpehu Whetū Transformation Programme. The EA Blueprint describes the EA approach which considers Risk (Stabilising our systems), Value (Developing new operating platforms) and Efficiency (Standardising production of groups of statistical outputs).

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'The EA and implementation approach undertaken to date (and proposed for the next three years) is a model with ever-increasing levels of standardised capability being introduced via the platform approach. It is supported by a strategy of convergence, to ensure we continue to develop foundation capabilities that can be used by many business units.'

With reference to SP3: Transform the way we deliver statistics:

Statistics NZ's EA will support and enable this strategic priority through: A responsive and flexible organisation enabled by a suite of capabilities aligned to the generic Business Process Model (gBPM) accessible via statistical platforms. This will provide the ability for statistical clusters and business units to lower the Total Cost of Ownership (TCO) by maximising the efficient use of resources.

Both of the preceding statements outline the intent to provide standardised platforms through which Statistics staff will carry out their duties, in the delivery of statistical outputs. It is a reasonable assumption that the platform model will effectively replace the current model where end users use generic tools to collect, process, analyse and publish their work.

There is a hierarchy of documents which form an Enterprise Technology Plan. The relationship between key documents, End User Computing, and the strategies and plans is outlined at Section 7 Document Hierarchy and Future Plan for EUC in the context of the Statistics New Zealand Strategy and Plan. Those key documents are as follows:

- An IT Strategy for 2012-2016 which follows on from the previous IT Strategy for 2009-2012. The previous strategy was reviewed as part of the approval of the 2012 strategy and found to be 86% complete.
- The IT strategy Implementation Plan v1 approved March 2013.
- The Enterprise Architecture Blueprint. Version 1.0 was approved in June 2012 and supports the Statistics NZ Strategic Plan 2010-2020 and the implementation of the Strategic Plan through Stats 2020.
- Enterprise Architecture principles, standards, and conceptual models which are published through the EA page.
- Capability specifications.
- A draft of the end-to-end capability roadmap outlining future capabilities and timelines.
- Roadmaps for each platform. These are intended to breakdown the EA Blueprint into clusters of like activity aligned with both the organisational structure and the gBPM.

The Roadmaps are at various levels of maturity. As a collection they were drafted in March 2012 and the EA Blueprint states that the roadmaps will be reviewed annually, therefore they

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are now overdue for review. Their latest version and current 'Status' is included in the table below:

Roadmap	Latest Version	Status	Platform Owner
MEES Platform Roadmap	Notes Link March 2012	Concept	[REDACTED]
Statistical Toolbox Roadmap	Notes Link March 2012	Concept only and not strictly a Technology platform, therefore no plans to release at present	[REDACTED]
Future Census Roadmap	Notes Link March 2012	Development	[REDACTED]
Corporate Services and Systems Roadmap	Notes Link March 2012	Development	[REDACTED]
Dissemination Roadmap	Notes Link March 2012	Development	[REDACTED]
Metadata Roadmap	Notes Link March 2012	Development	[REDACTED]
Integrated Data Infrastructure Roadmap	Notes Link March 2012	Draft	[REDACTED]
Micro Economic Processing platform Roadmap	Notes Link March 2012	Approved v2, November 2012	[REDACTED]
Household Survey platform Roadmap	Notes Link March 2012	Approved, discussion document relating to options for future development is in draft.	[REDACTED]
Collection Roadmap	NA	No current roadmap	[REDACTED]
Geospatial Roadmap	NA	No current roadmap	[REDACTED]
Information Access Roadmap	NA	No current roadmap	[REDACTED]

The roadmaps identify high level structure and talk to technologies being used at a high level only. In practice, the roadmaps are translated into detailed plans and designs under project initiatives on an as and when required basis. These project High Level Designs are approved through steering committees. Comments relating to governance control are included at section 6.3 on page 30.

In the early stages of this review there was concern that Corporate Services and Systems were referred to but not aligned with the overall strategy. During the course of the review the Corporate Systems Governance and Support Project inside the Business Information and Performance Programme has delivered against several of its milestones. This project will create a Corporate Systems Strategy and roadmap, and establish governance and support arrangements. A high level assessment of the work in that project and its progress, including the transition of Corporate Services into the IT Solutions team to align and standardise service delivery has satisfied the reviewer that it does not merit any specific or additional recommendations or actions.

As a supporting component of the Enterprise Technology Plan, the overall structure of the EA is appropriate and in line with good practice. This is supported by an approved IT Strategy and Implementation Plan which outline the high level technology components of an appropriate EUC environment.

Note – these documents include action plans at a lower level, but as an architectural plan they describe the building blocks at a high level only.

Recommendation 4

That the CIO directs that the outstanding Platform Roadmaps are published and base lined and that annual review of all Roadmaps is monitored.

3. Education and Communication of the Enterprise Architecture

3.1 Expectations

I expected to see evidence of appropriate organisation-wide education, communication and training in support of the enterprise technology plan and architecture.

3.2 Findings Summary

If the EUC environment and tools of tomorrow are delivered through the EA then it is essential that there is a shared understanding and appreciation of the plans that stretches organisation wide. This would ensure that any responsible person would understand the value of aligning with EA and the implications of deviating from the EA Blueprint. These concepts are supported by wide communication and consultation of the EA and the IT strategy, which is aimed at various levels of the organisation and communicates the vision for IT Solutions and the EA.

3.3 Detailed Findings

There is a high level of communication and education of users on the over-arching technology plans and strategies. The EA is communicated to the wider organisation through a number of methods including (but not limited to):

- Documentation through the EA Blueprint and the IT Strategy and Implementation Plan. Approved and committed to by Senior Management and accessible to all.
- Platform Roadmaps.
- Posters and Visuals which can be seen in most locations, reinforcing the concepts and interpreting the alignment of business outcomes delivered by projects with the EA as a framework.

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- Regular IT Solutions road shows.
- Bulletins and publications.
- Engagement in project activity.

Overall, the document is well written and based on best practices and principles. Language used in the document is clear and in keeping with the Stats 2020 transformational direction and style. Commitments from the Chief Executive and the CIO preface the document. The document is long and complex, so there is also an 18 page Executive Summary document and a presentation version of the IT Strategy which appear to be effective in communicating the content of the EA. The principles which underpin the EA were found to be well established, as referred to in the EA Blueprint:

Statistics NZ's EA has been evolving for a number of years. The majority of artefacts, concepts, and diagrams in the detailed EA Blueprint are widely known and have been used or developed across the business.... The vision associated with the EA blueprint is "Successful partnering across the organisation to achieve our strategic objectives through aligning people, process, and technology".

The IT Solutions Road Shows provide updates and connect with Statistics staff and management. The last road shows took place between October and November 2012 across all three centres. The content related to various IT Solutions functions, providing updates and explaining the IT Solutions visions and plans. The next round of road shows is scheduled for July and again in late 2013. These road shows appear to be well received and reasonably well attended. They are an important opportunity to engage with the IT user community to share plans and solicit feedback.

The platform roadmaps align with the general communication theme, although as noted in the previous section, these documents should be updated.

The theme of promoting ownership and accountability for IT systems back into the business was found to be generally understood. This strategy is not intended for IT Solutions to avoid responsibility, but is more commonly used in industry best practice to ensure that the user community at senior levels shares interest in their IT infrastructure.

Engagement in project activity is an opportunity for individuals to reference and apply the EA. This would be led by the project charter or business case which would normally include drivers which align to the strategic priorities and, for technology changes, would refer to alignment with the EA.

One opportunity to reinforce the messages relating to the IT Strategy and EA blueprint would be to reference the EA in the 'Scope, responsibility and secure use of our IT Environment Policy' to support the initial on-board training and set the tone for new employees, see Recommendation 1 in section 1.3.1, page 13.

Documentation is hard to find. Information relating to latest documentation and process relies heavily on knowledge sharing and networks. Culture supports this but it can be an inefficient model. From informal engagement with Statistics NZ staff this would appear to be a widely supported view. Information architecture is heavily nested and complex to navigate. It may be fairly straight forward to find some material related to a subject, but it is often the case that other relevant material is stored in other locations which may lead to duplication. This factor has added considerable complexity and time to this review.

Whereas this may well be worked around by experienced staff, new starters and those less proficient struggle to find the absolute version of documents. Intranet pages which provide updates or process information are not consistently linked and are difficult to navigate. Good examples of information management portals connect with the audience through a front end visual and then allow connected drill through to areas of appropriate detail. This visual might be the gBPM or Stats2020 themes. In the opinion of the reviewer, the Te Matapihi implementation does not present a clear and connected information architecture.

Recommendation 5

That the CIO initiates a review of how Information Management strategies are applied in IT Solutions to communicate complex end to end concepts like Enterprise Architecture and delivery processes. This should consider the inflight work in the capture of documentation in SparxEA, SmartMethod and Team Foundation Server and ensure that information is practically accessible to the wider audience.

4. Effective Change Programmes for EA Implementation

4.1 Expectations

I expected to see effective change strategies and programmes to implement the approved enterprise technology plan and architecture.

4.2 Findings Summary

There are programmes of change within the overall Stats2020 Transformation Programme that are addressing the prioritised technology changes, with discovery and feasibility projects helping to determine the necessary work to implement the Platform roadmaps. Evidence was not available of direct correlation between high level roadmaps and an overall technology roadmap with key interdependencies and an overall critical path.

Central to the implementation of the EA is the concept of Business Platform Ownership. Roles and Responsibilities for Platform Owners are still being established. The wider responsibilities of platform ownership and the support and trading relationships with IT are essential to sustainability and the delivery of the target EA (and implied ideal EUC experience).

Measuring progress towards the target EA would benefit from some form of review or baselining of standardisation or platform adoption against statistical outputs. This baseline could be used to track progress over the extended transformation programme. In addition, if the review of IT metrics includes service performance metrics which represent performance and availability of statistical outputs and business platforms, this would enhance the platform ownership model.

4.3 Detailed Findings

The following comments relate to the current Portfolio arrangements; for additional comments relating to the single Transformation portfolio refer to the findings in section 6.3 on page 30.

In the context of Best Management practice from the guidance published by the Office of Government Commerce, UK government the change activity at Statistics New Zealand is split across six segmented portfolios, with the complete portfolio forming an overall Transformational Change Programme. There is clear hierarchy and delivery governance structure for Portfolios, Programmes and Projects.

Planned change to the platforms inside the EA framework sit in five out of six Portfolios, with programmes that span multiple years. The correlation between platform change and evolution is not immediately apparent and would require a deep understanding of the complete Transformation Programme. Although the high level documentation around the EA and supporting roadmaps provides a line of sight between current state and target technology for future use, this could not be tangibly correlated from the Projects, Programmes and Portfolios.

Although this visibility may well exist it has not been transparent or available during the course of the review. Programmes and Projects are built around business cases which through the approval process are validated by Steering Committees which have responsibility for ensuring planned and prioritised change is in line with the EA Blueprint and the overall transformational programme. The change programmes need to deliver their identified outcomes, which need to include a plan of change from current state to a stage where no more legacy applications are used and where the Enterprise Architecture has been fully implemented. Although this may not be the primary driver, it needs to be integrated in the

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outcomes. Ideally, an absolute mapping between roadmaps and evolution of technology to deliver the target EA, with detailed interdependency mapping would provide visibility.

As well as the transformational change, there is a bottom up approach to cleaning up the legacy environment. This has been made practical through the implementation of the Windows 7 common operating environment and the Legacy Mitigation programme.

The platforms are at various states of implementation. At this stage some platforms are well established, some are a collection of legacy applications, and some are collections in that their outputs are produced by standalone and bespoke applications which are logically grouped to reflect the future EA blueprint. Platform ownership is assigned to the relevant business area and delegated to a Tier 3 manager. That platform may also be delivering functions to other business units. This requires cooperation and a wide degree of communication and trade-off.

At the discovery stages of the review it was identified that there was a need to more clearly understand the responsibilities of the platform owner and the support arrangements that related to the platform. This had already been recognised and external consultants (Fronde) were engaged, to complete a review focusing on the MEP platform, but relevant as a model for consideration across each platform. This demonstrates that both IT Solutions and several of the business functions have recognised that the platform ownership model needs to be developed.

As part of developing those responsibilities, there is an established forum for Business Platform Owners that meets on a regular basis. It is attended by the majority of the responsible owners and is used as an informal communication channel. It has more recently been used as vehicle for the wider business to engage with the platform owner forum on current and future issues. The forum members have recognised that they would benefit from more structure and purpose and this review has provided some proposed agenda items for consideration. Although, earlier meetings have been informal, more recently the Statistical Infrastructure programme has provided some structure

It should also be noted that the preference of several stakeholders is to maintain this group as an informal forum, which informs other decision making forums. Providing that those participants recognise the additional role that requires them to play, then this is appropriate and will facilitate the overall target EA implementation.

This review considered the role of the platform owner, including what to expect in terms of service delivery from IT Solutions and the need to solicit feedback from the wider community of platform users. As the Fronde assignment was not completed in time to contribute to this

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review, a more generic view of platform support considerations was used to support discussions with platform owners. It should be recognised that not all platforms are the same size and process and communication flow needs to be tailored for each platform whilst considering the overall organisation wide strategic proprieties of sustainability and efficiencies of centralised functions.

Section 10 (Business Platform Ownership Supporting Material) includes proposed agenda content for the on-going Business Platform Owners forum as well as general considerations for support and management of platforms, which may provide context for the platform owners.

Note:

The platform owners should consider introducing additional structure to the Business Platform Owners forum.

As the business platforms are developed through change programmes, this will move the organisation closer to the target EA. During the review it was very difficult to gauge a measure of how well each platform was implemented or its alignment with the EA. Recent work in the Review of Architectures, Clusters and Statistical Models Project, within the Statistical Infrastructure Programme, has identified a method of measuring the level of standardisation in the delivery of statistical outputs.

This work highlights that there is currently a limited view and no organisation wide measurement of the level of standardisation and platform implementation and adoption. The project itself has only reviewed a small portion of the MEP platform, and is currently under resourced and low in priority. Considering the extended term of the programme of transformation and that the future of EUC is dependent on the delivery of an implemented Enterprise Architecture blueprint with standardised delivery of outputs, it is recommended that some form of this work be applied across all platforms.

Recommendation 8

That DGS Standards and Methods raises the priority and focus of the Review of Architectures, Clusters and Statistical Models (or its replacement). It should provide a measurement baseline of the level of standardisation applied on each platform considering the adoption of the Business Platforms and alignment with EA. This measure should also be fed into the transformational programme to track progress.

The IT strategy does identify the need to extend performance metrics. This aligns with several of their identified goals and planned work for 2013/14 as well as considering requirements of the BASS (Better Administrative and Support Services) programme. There is an opportunity to consider customer facing and output driven performance reporting. In

addition to considering standardisation and Activity Based Costing, the metrics review should consider DIFOT (Delivered in Time on Full) or OTIF (On Time in Full) approaches which are used in supply change performance measurement to represent end to end service delivery in terms of products or outputs. This alignment would focus attention on the outputs for which Statistics NZ is funded.

By communicating IT service performance on a platform by platform basis with transparency of performance of the business outputs (statistical outputs through the gBPM), this may highlight standardisation and/or implementation gaps across the EA as well as strengthening the platform ownership model.

The challenges faced in the platform model and suggested measurement focus (both IT service performance and standardisation) are shown in the diagram at Section 8 Platform Challenges and Relationships to End-to-End Service Delivery on page 34.

Recommendation 6

That the CIO includes customer or service delivery metrics (DIFOT) in the IT metrics review to measure service performance to the business units.

5. Effective Strategies for Legacy Mitigation

5.1 Expectations

I expected to see effective strategies and a repeatable process for the migration from the use of historical or legacy applications to the desired target or future state.

5.2 Findings Summary

The approach taken on the Legacy Mitigation programme was reviewed and found to be effective. There is a level of engagement with the business and there is evidence of informal but repeatable process.

The programme would benefit from revising its communications strategy to raise its profile and this has been provisionally planned for July 2013. Publication and reporting on progress was found to be acceptable, but would benefit from more categorisation to provide visibility and ensure that any trade off of responsibilities (i.e. to business led changes) are transparent.

5.3 Detailed Findings

Early strategies and discussion papers were well communicated and used as bases on which to build the programme of work. The programme is planned to run through to 2016 with a repeating annualised business case for the duration.

From the Legacy Programme Business Case 2013:

Statistics New Zealand relies on approximately 200 unsupported legacy applications to produce a number of its key business outputs. In the Business Case for Statistics 2020, it has been deemed an essential priority for Statistics New Zealand to address these legacy issues and the risks they present...In the Statistics New Zealand context, Legacy Software is defined as Software that is either no longer supported in the market place, and/or does not form part of the current or future enterprise architecture for Statistics New Zealand.

A Legacy Mitigation Roadmap was developed and endorsed by the Statistics NZ Board in 2009. This roadmap sets out the work streams required to replace legacy systems which are not covered by other business led development projects, with the aim of having all legacy systems removed by 2016. The roadmap was updated in 2010 to reflect the better understanding of the environment, and subsequently revised in February 2012.

This roadmap and its subsequent revisions are appropriate and support the overall IT Strategy. The agreed scope of the programme, as outlined in the 2013 Business Case, is split into the following streams:

- Delivering Legacy replacement solutions for remaining Centura applications.
- Migration of Sybase to SQL-Server.
- Replacements for Microsoft Access applications which are currently 'hosted' in the controlled 'Museum' environment.
- SAS – Replacement of AF and Insight, and migration to SAS Enterprise Guide. This transitions client applications on numerous versions to an Enterprise Licence with additional server controls.
- Updating Lotus applications to allow access via current technologies.
- Archiving of legacy data and source code in coordination with Information Management.
- Consolidation of other legacy tools.

As a migration or roll-out programme, a standard approach is often to create repeatable processes that are iterated through to run through the programme of work and sequence activity. This is true in many other instances for the programme, which has created

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processes and sub-routines for identifying locations and last use or access of legacy applications or databases. This is done through sweeping the Statistics New Zealand EUC environment to identify installation or recent access to identified legacy applications.

Those regular sweeps both confirm known instances which are sequenced to be migrated or mitigated, or identify new instances which have been accessed since the last sweep and require attention. The programme manager provides an engagement point with the business to address those new instances. The approach or strategy to address retiring or controlling usage of listed legacy applications is usually captured by means of meeting records and commitments.

As an example of repeatable process, to address stream 2, Migration of Sybase to SQL Server, the programme has applied a seven stage approach which has been agreed in a paper to the IT Advisory Board. In practice, during execution of this approach, circumstances were highlighted where it would not be financially viable to execute on all seven stages. There is currently a recommendation to pause at stage 3, leaving the interim stages (4-6) to be picked up by transformational redevelopment activity. This would be on a case by case basis.

The seven stages as applied to the Sybase to SQL migration are as follows (to provide an example of the process followed):

1. Complete CARS (Classifications and Related Standards) conversion (to confirm estimates for manual conversion), and acquire tools to facilitate further migrations. Complete Stand-alone database migration.
2. Isolate Household Frame/GeoFrame and connected databases.
3. Migrate Household Frame/Geoframe and connected databases.
4. Migrate those Sybase databases connected to CARS.
5. Migrate the databases for Centura translated processing applications.
6. Migrate the IRD and allied databases.
7. Migrate remaining database groups connected to Business Frame.

There are repeatable processes in the Information Management stream which is focused on archive or deletion activity. As is often the case with migration and roll out programmes, as you start to work through the later stages (by volume remaining), many of the quick wins have been taken and the clean-up activity is a long process. For that reason, it is the opinion of the reviewer that more of a checklist process with some collateral would facilitate engagement with the programme.

The programme has engaged with a number of business led programmes to negotiate and agree strategies for mitigation. The general approach of the programme is like for like replacement of functionality delivered over EA compliant technologies. There are instances

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where this is not cost effective and individual projects have taken the lead (e.g. SDDM, Time Series Management).

In addition to migration activities, there is a mitigation strategy aimed at applications which will be replaced or no longer required in the foreseeable future and/or will be replaced by planned development. This is a 'Software Museum', which is a controlled environment which is planned to remain until June 2016.

Regular reporting on progress includes 'Legacy Counts' graphs which include percentage complete information by individual technology being used. It focuses on total number of instances, the number classified as 'Done', and the balance remaining. The categorisation of 'Done' includes instances which had been mitigated or transferred to business led initiatives. These instances had not strictly been completed although they were moved out of scope for migration within the programme.

The risks here are mitigated by the fact that the Legacy Programme is still responsible for the decommissioning activity and so tracks completion by the receiving programme. After initial feedback the reporting has been expanded to categorise between business led initiatives and work completed within the programme.

The programme would benefit from revising its communications strategy. In the early stages of the review there was a very incomplete communications strategy. The IT Portfolio Manager and the Programme Manager recognise that the profile of the programme needs to be raised. There have been various bulletins and leaders communications reminding the management community of pending changes or removal of capabilities. Although the communications strategy has recently been republished, with additional focus on reaching out to business unit managers to promote the programme's objectives, in the opinion of the reviewer additional communication channels should be explored. This communications review, including input from Strategic Communications to align with the overall transformational messages and communications plan, may include progress reporting that includes more granularity. This would provide visibility and ensure that any trade off of responsibilities (i.e. to business led changes) are transparent.

The legacy programme itself is a key bottom up strategy to providing a clean baseline for the future EUC environment to be deployed. To that end its success and organisation wide commitment is essential.

Recommendation 7

The CIO initiates a review of the Legacy Mitigation Programme Communications Plan including appropriate monthly reporting on progress to a level of granularity which is appropriate for the wider audience.

In general, the programme has taken all reasonable steps to capture and address areas of non-EA compliance.

6. Management of Remediation and Non-Compliance

6.1 Expectations

I expected to see managed remediation plans for any areas of non-compliance against an organisation wide enterprise technology plan.

6.2 Findings Summary

The Windows 7 implementation and the legacy programme are providing general control and management of non-compliance in the EUC environment. In terms of new implementations, there are Architectural Review and Standards Governance Boards which provide review of standardisation and alignment with long term enterprise wide plans.

However, awareness of these forums and their role in governance was variable across the review audience. This again relies heavily on steering committees and management functions catching expectations versus Project and Programme delivery governance managing and tracking the project outputs.

In the absence of an end to end integration plan across the EA and the programmes of work, there is pressure from individual business units to deviate from the EA to deliver their own prioritised needs.

6.3 Detailed Findings

The focus of this area of the review was that non-compliant applications and systems are identified and mitigated appropriately, to ensure that the path to the target EA and EUC environment is maintained.

This can be considered in two dimensions:

1. Existing deployments
2. Planned future deployments and change (projects and programmes).

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Existing deployments are predominantly addressed by the previously referred to Windows 7 deployment, IT policies and the Legacy Mitigation programme which are covered in earlier sections.

Planned future deployments and changes use project and programme management disciplines to apply controls and manage non-compliance. With the recent appointment of a dedicated Transformation Director and a review of the governance arrangements for Statistics 2020, there is a newly established Transformation Programme Board to replace the existing Portfolio Committees.

From the announcement by the Chief Executive, 10th April 2013:

Further details on the revised governance arrangements and the responsibilities of the DGS Transformation and the Transformation Programme Board will be communicated later. Sponsorship responsibilities for projects and programmes will not be changed, though some clarification of expectations will be provided. The revised approach is yet to be approved and published.

The Transformation Programme Board has since been established and had its first meeting on 12th June. Terms of Reference have been agreed and signed by the board members. Communication and establishment of this new governance arrangement has not yet been published.

Currently, the governance of project delivery is light, with the Enterprise Architecture Team having to actively direct projects to maintain focus on each new design aligning with the longer term Enterprise Architecture Blueprint. Once a project moves to later stages, Quality Management processes are applied, which require approval from the Enterprise Architecture Manager before implementation. The Architectural Review and Standards Governance Boards review standardisation and alignment with long term enterprise wide plans. However, awareness of these forums and their role in governance is variable across the business. This means that Statistics NZ relies heavily on steering committees and management functions catching expectations instead of project outputs being managed and tracked through Project and Programme governance.

The project controls and processes are focused on the management products (project baselines, records and reports) versus the specialist products (the deliverables or outputs of the products including designs). This provides a light framework to support the Agile approach, however there would be benefit in capturing and recording strategic alignment as a control at the early stages (not just business case) and again at the pre-launch stages to ensure that any new technology deployments are compliant and do not compromise the EA.

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As a result, there is a risk that some system change initiatives may be missed from architectural and standardisation governance.

The establishment of the Transformation Governance Board is an opportunity to govern the Transformation Programme as a single portfolio, which may be segmented but still aligns the streams of programme activity which are joined only by EA intent at present. The outputs or commitment to recommendations included in sections 2, 3 and 4 would support an overall top down re-plan of integration activity to ensure that sequencing of changes is in step with the target EA roadmaps and strategies.

At present there is a collection of high level roadmaps which do not show end to end interconnection across the portfolios of change, which makes prioritising and sequencing very difficult and subject to short term business goals. As part of the wider appreciation of business ownership, compromise on technology roll out which may or may not align with business functions timelines will be necessary.

To address this, the terms of reference for the Transformation Programme Board include the authority and purpose of:

- 1. Ensuring the whole Transformation Programme and the component parts are integrated and aligned with the strategic direction...*
- 5. Approving the delegated component parts of the Transformation Programme*

The reliance on steering committees for Project Governance would be improved by including additional control points in the project delivery cycle confirming alignment with the EA Blueprint. In line with best practice, in the future should additional frameworks or architectures be established there would be an opportunity to add appropriate control points to ensure their integrity is maintained.

Recommendation 9

That the DGS Transformation ensures there are appropriate control points throughout the project delivery cycle, especially at the early stages and pre-launch to ensure that the IT component of a project aligns with the enterprise architecture.

Recommendation 10

The Internal Auditor considers including in the 2013/14 Internal Audit Work Programme a sample controls review of a small selection of projects to identify the depth of compliance.

7. Document Hierarchy and Future Plan for EUC in the context of the Statistics New Zealand Strategy and Plan

End User Computing: Strategy and Key Document Hierarchy

End User Computing

- Systems in which non-programmers can create working applications.
- EUC is a group of approaches to computing that aim at better integrating end users into the computing environment.
- These approaches attempt to realize the potential for high-end computing to perform in a trustworthy manner in problem-solving.



Enterprise Architecture

- Big picture connecting Business and technology to enable outcomes

IT Strategy

- Wider context and strategy of how IT will support the business needs

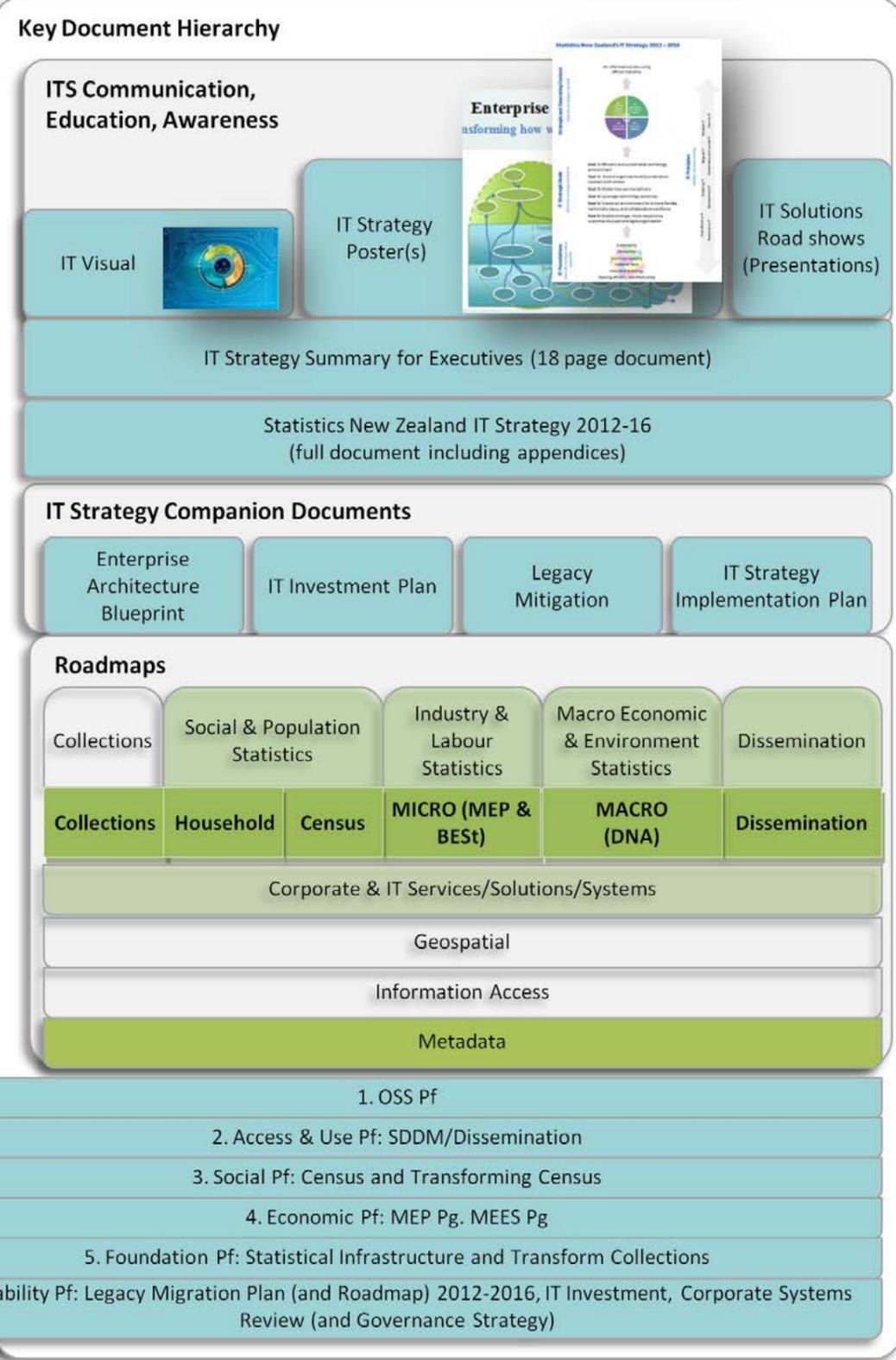
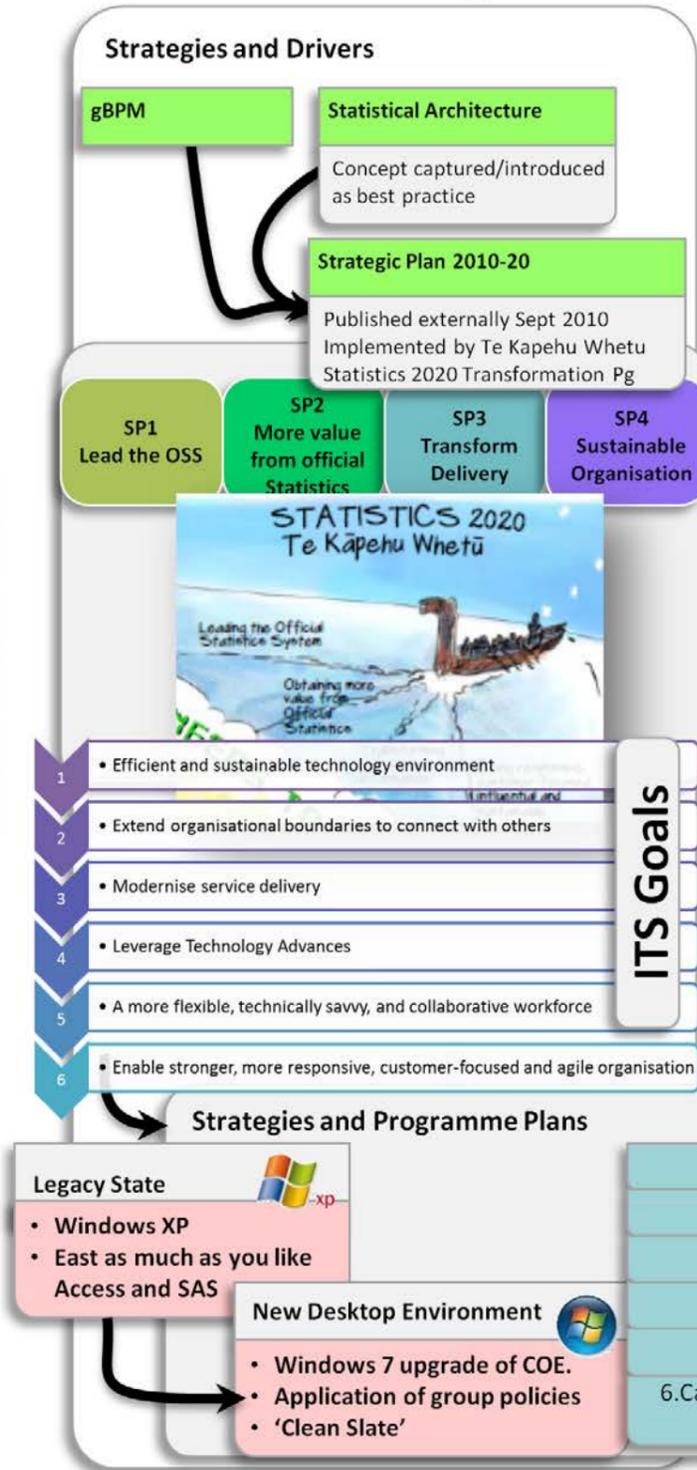
Transformation and Change Pgms

- The plans to move from today's practice to consume the desired technology of tomorrow



ASSUMPTION:

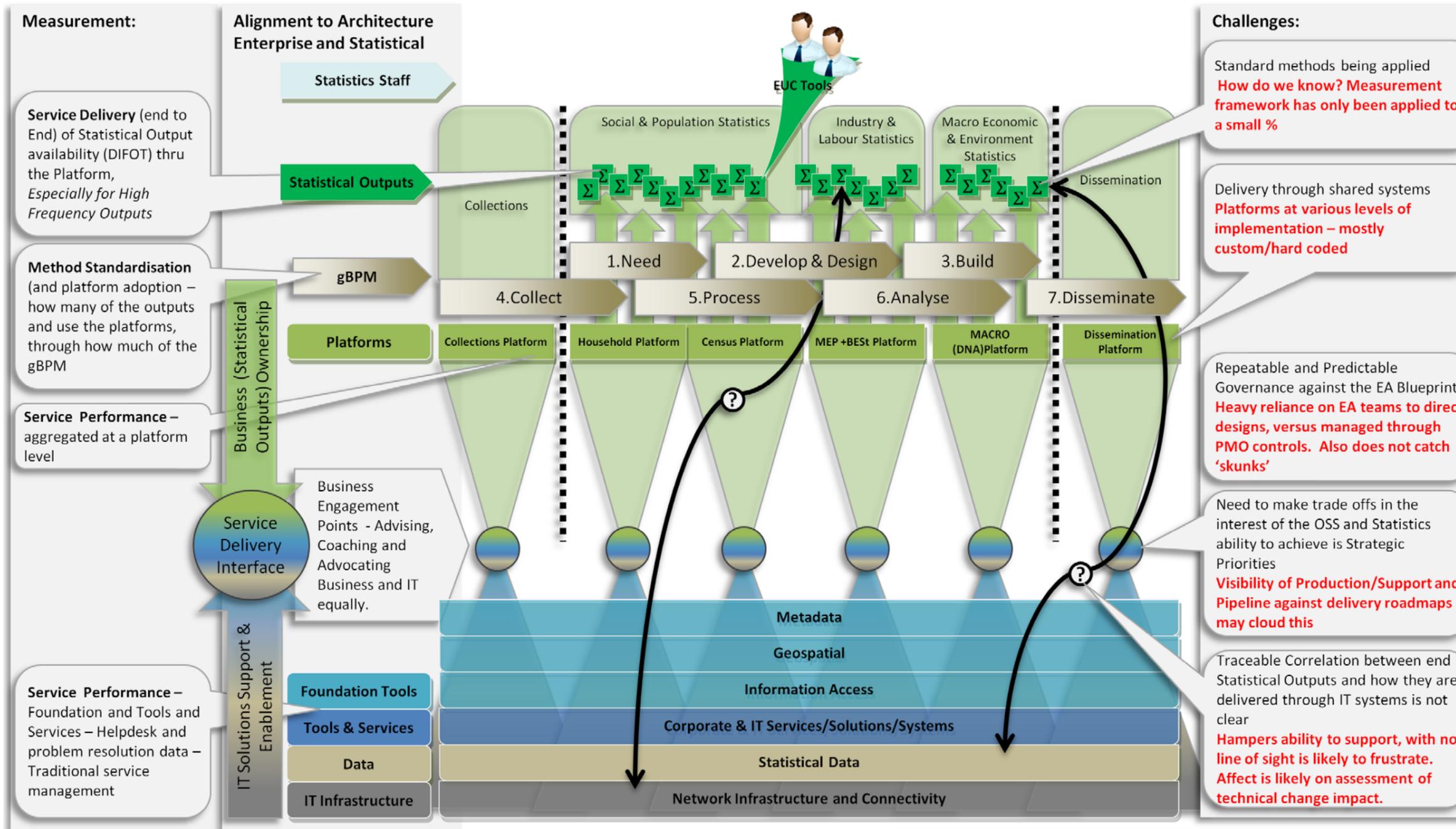
- If the EA is implemented then the tools and applications used at the desktop will provide an appropriate End User Computing environment.
- That environment will reflect the transformed methods of delivering statistical outputs



8. Platform Challenges and Relationships to End-to-End Service Delivery



Platform Challenges



'skunk works' - a group of people who work on a project in an unconventional [and unauthorised through wider management channels] way. The group's purpose is to develop something quickly with minimal management constraints.

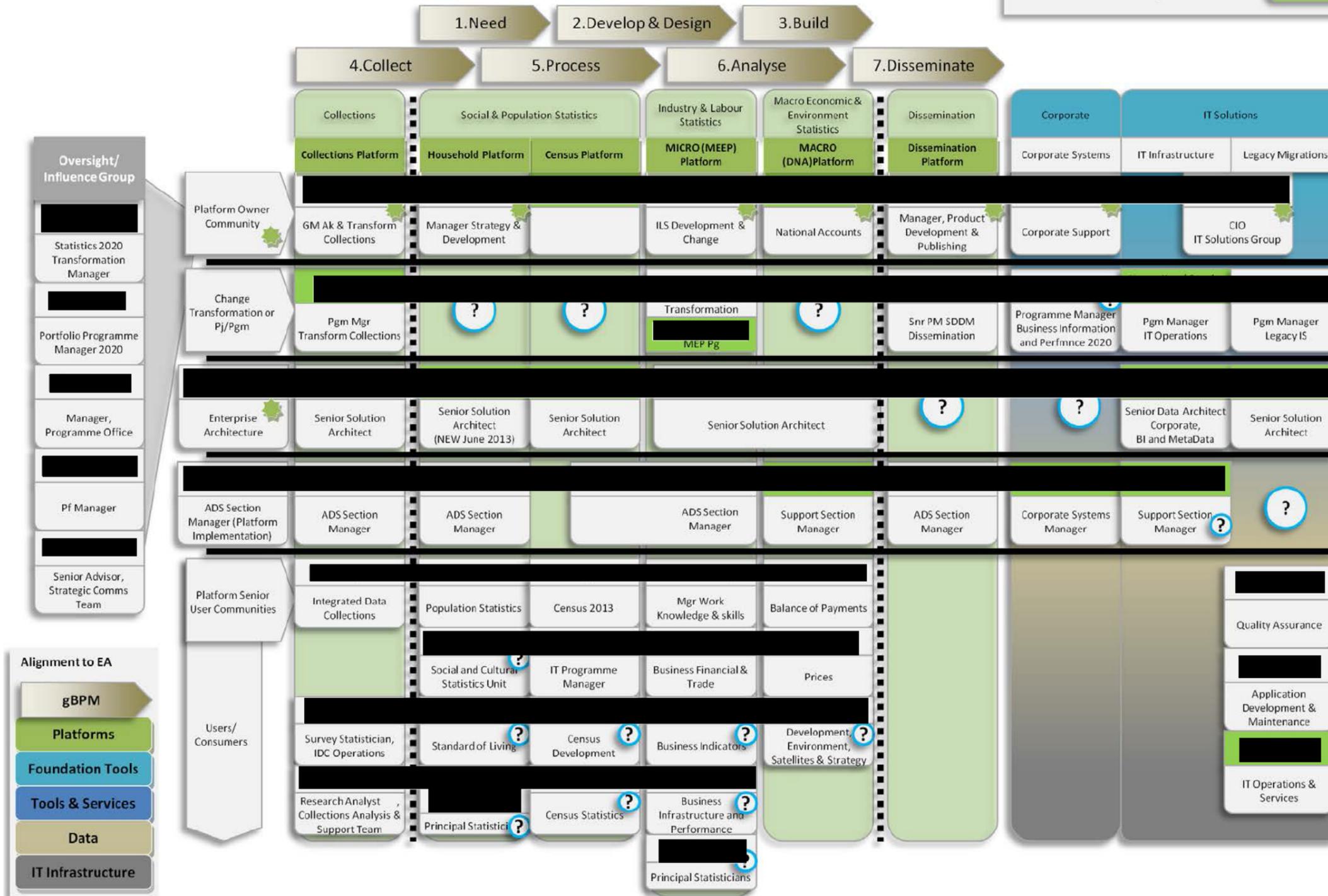
9. Platform Alignment and Allocated Responsibilities

Platform Alignment

(as at 23 May 13 based on Stats Organisation Chart Nov 2012 and identified changes)

LEGEND

- Platform** Identified as a Platform in the EAF
- Platform Ownership responsibilities
- Vacancy or no individual identified for the role, or an individual which has been assumed responsible.
- Role Identified as a point of contact in initial plan
- Recent Change or Change Pending



10. Business Platform Ownership Supporting Material

At the discovery stages of the review it was identified that there was a need to more clearly understand the responsibilities of the platform owner and the support arrangements that related to the platform. This had already been recognised and an engagement had been initiated with external consultants (Fronde) focused on the MEP platform, but relevant as a model for consideration across each platform. This demonstrates that both IT Solutions and several of the business functions have recognised that the platform ownership model needs to be developed.

This review considered the role of the platform owner, including what to expect in terms of service delivery from IT Solutions and the need to solicit feedback from the wider community of platform users. It should be recognised that not all platforms are the same size and process and communication flow needs to be tailored for each platform. The implementation, support and management of the platforms also needs to consider the overall organisation wide strategic priorities of sustainability and efficiencies of centralised functions, versus any business unit driven specific arrangements.

10.1 Business Ownership and Support of a Managed Platform

Many of the disciplines and activities which are listed here are in place now for some applications and systems. Many of the disciplines require skills and experience which currently sit inside the IT functions. The intent should not be to re-build capability within the business units, but to harness the capability within IT and arrange to call on the resources, skills and experience to committed service levels that meet reasonable and balanced needs of the business. That no doubt would necessitate compromise.

The following is a high level view of what would normally be expected of a shared platform or application within an organisation, where multiple platforms are in use across a wide user community to deliver business outcomes. It is not an exhaustive list, but has been included to support discussion.

10.1.1 Change Control and Environment Management

As maturity and scale increases there would be the following services and functions required to sustain the platform:

1. **Basic break/fix support arrangements** – assigned individuals who administer the applications and ensure they are available for use.
2. **Change and configuration management** – formal approval arrangements for acceptance of changes to the applications and systems with planned and controlled changes being applied to the platform.

3. **Environment Management** – assigned individuals who administer the environments and ensure they are available for use. Note that this assumes an increase in complexity and recognition of several environments in the delivery of change and enhancements into the production environment through at least development and staging environments. The level at which those staging environments replicate production will determine the risk and certainty profile of implementations.
4. **Change and Release Management (End to End and Enterprise wide)** – this considers the integration of a number of environments and how change is sequenced and planned over an extended timeframe. The outcomes can be used for operational planning and to inform interdependency management.

At the higher levels there is a need for capacity management across the systems to ensure that they are capable of supporting the business needs. All four levels may not appear across the enterprise and if they do may only consider a subset of the enterprise, but as maturity rises they would be established with environments moving from uncontrolled into controlled states.

Examples of effective operation would include working to a Calendar of Work (CoW), supported by a plan of intent (Roadmap) and with close to real time published view of activity in flight (an operational view of what is happening now to support planned change/configuration and to establish the capacity to receive change).

10.1.2 Platform Operational Management and Development

Day to day operation and configuration of a business platform would include delegated and role based administration of user rights and permissions within the platform environment, where business users can self-manage many of the functions of the platform.

When this is the case there are a number of principles which should be considered:

- Integration and use of Identity and access management capabilities. This ensures that capabilities are not unnecessarily reproduced and that organisation wide principles are maintained. In the practical sense this is likely to enable a single sign on and authentication experience which makes the platform more user-friendly.
- Management of shared data sets. As platforms use or build data which may be shared for a number of purposes there is a need to apply elements of change control around creation and deletion of data structures. This would ensure good practices are applied and that data is not deleted by one user if still required for by another.

- Documentation of the current build to support both operational support and as basis for future enhancement. This would extent to making appropriate entries into centrally managed libraries or repositories such as a DSL (Definitive Software Library or List) or CMDB (Configuration Management DataBase). Documentation also considers agreed support agreements.
- Guidelines and standards are applied. These can be through Centres of Excellence, specialist user forums, or published principles and standards. This might relate to the application of an appropriate business process or method or be as simple as a naming convention that is understood across the organisation. Equally this would apply to the quality and fitness for purpose of the code that is developed.

In Statistics NZ there are a number of forums and user communities including the SAS Reference group and Methodological Networks as well as standards and principles which are referenced in the Enterprise Architecture Blueprint.

10.1.3 Programmes and Projects of Change

There should be a programme of change planned for the evolution of the platforms. In order to simplify, the focus in this section is on the impact on business as usual support and operations of the systems and applications:

- Planning and sequencing of change activity including a method of capturing, interpreting and communicating the interlock and dependency outputs generated by the change control and environment functions. This may be achieved by contributing to a wider integration plan or dependency map that allows an overall view of the critical path to be established.
- Business Process improvement and/or Business Analysis input. This captures and interprets the User and Senior User requirements.
- Solution Architecture/Design input to consider integration and interfaces for correct operation and to ensure that future development aligns with target architecture at a platform level. This needs to consider practical support constraints and lifecycle costing of maintenance or changes to new technologies.

With planning and sequencing it is likely that there will be a difference between ideal scheduling to meet business needs now versus aligning with longer term goals. This trade off needs to be managed and exposed, so that decisions which do not duplicate cost and commit the organisation to technologies are taken through appropriate governance.

10.2 Platform Ownership Meeting Structure

The Platform Owners forum is just one engagement point. Before considering its structure there is benefit in considering the other key stakeholder groups.

10.2.1 Engagement of Key Stakeholder Groups

There should be forums that provide a channel for discussion. The following stakeholder groups should be involved as required to ensure balanced and informed decisions can be made:

- Representation from the Senior User community, where responsible owners of the business outcomes can represent their requirements and participate and offer their influence to the priority and sequence of planned changes.
- Representation from the user community which considers the practical application of changes in use and day to day operation of the applications or systems. Users can share learnings, establish day to day needs and raise concerns – this is the voice of the user community which is then channelled up to the senior user group. This includes discussion relating to communication and education of the planned changes at different timelines, considering immediate and long term activity
- Representation from the IT support wider community to communicate planned changes that will impact availability of business systems and obtain feedback from the user community on performance.
- Representation from Centres of Excellence or best practice. This role applies to Standards and Methods in the Statistics NZ context, but can also apply to user communities as representatives of the subject matter area or to the IT support community to ensure standardisation and reuse of agreed best practice.

Some of the communities may engage informally and outside of formal governance processes, but should be a means of ensuring that there is a shared and common purpose. In this case one or more of the representatives should be included in formal governance processes to ensure that the collective voices of the communities are represented.

10.2.2 Proposed Content for Platform Owners Forum Meetings

After engaging with platform owners, it was recognised that there is a desire to engage as a community of interest, to share in an open forum, both the challenges that are being faced and activity which is in flight or being planned.

It should be noted that the preference of several stakeholders is to maintain this group as an informal forum, which informs other decision making forums. Providing that those participants recognise the additional role that requires them to play, then this is appropriate and will facilitate the overall target EA implementation and transformational goals.

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The following content/structure is proposed for the meetings:

1. A channel for the wider business to socialise initiatives that may touch on more than one business function:
 - a. New initiatives that may impact platforms (for example Statistics2020 cross platform initiatives, Integrated Data leadership, privacy, Government ICT and AoG initiatives).
 - b. Spotlight on specific business initiatives from within the forum membership, highlighting new concepts which can be leveraged.

2. Round table programme update in the context of change impact to the business:
 - a. What supporting activity is the business doing to get ready for change and how is change being received by the user community.
 - b. What obstacles are being faced, problems/issues that are being managed alongside the programme and needing support from the business.

3. Standardisation update (presumes a plan of activity to move towards standardisation or measurement of standardisation). This would include recent activity and what is planned next with an overall dashboard approach.

4. Platform support or service delivery update including a view of legacy activity in flight and relative cross referencing to each platform, i.e. legacy changes taken place or planned on a platform by platform basis. This input to the forum may be provided as a service delivery report or dashboard.

A more in depth service performance forum may exist, however there would be value in the platform owners being able to consider the implied load and service performance across the statistics network.