

Some Considerations for Implementing Government as a Platform

This document looks at a couple of the GaaP platforms that have been mentioned so far and considers some of the facets of implementing them..



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Introduction

Everyone in Government (the major political parties, the Civil Service, the Cabinet Office/GDS) and some commentators are promoting the concept of Government as a Platform (GaaP)¹⁻⁴. A recent video issued by GDS⁵ gives a high level view of GaaP and states "We think there is a simpler, easier way [than the independent service silos developed in the past that led to duplication] "It's an idea called Government as a Platform. It breaks things down into smaller parts like building blocks. Each block does one job. It's easy to connect blocks together and easy to scale them up when demand increases. If some part of the service breaks we can fix it or upgrade it easily. It concludes with This is what we mean by Government as a Platform - Better, smarter public services."

This is all very laudable and in some senses reiterates the Service Oriented Architecture concept at a whole-of-government level. SOA is pretty mature and the concepts are generally well understood. However, it has never been implemented at this scale or for an organisation that is as diverse as the UK government. There are also emergent approaches such as microservices⁶ that map more closely to the GDS digital developments to date and which doubtless have their part to play. Thus, it is worth unpacking some of the statements that have already been made about GaaP and exploring them a little further.

What types of platforms are there?

A number of capabilities have been identified as potential platforms. These include:

- Analytics
- Appointments
- Data
- Digital Marketplace⁷
- Email
- GOV.UK⁸
- GOV.UK Performance⁹
- GOV.UK Verify¹⁰
- Hosting
- Payments

These cover a range of topic areas including applications, infrastructure, security and others. GOV.UK, GOV.UK Performance, GOV.UK Verify and Digital Marketplace are already being identified by GDS as platforms, but they also state that they are not yet fully developed.

Most of the above list are runtime entities but GOV.UK is referenced as a publishing platform (i.e. an internal "production" process) and Digital Marketplace handles procurement activities. The performance platform reports on service usage. Thus, a platform can support any common function that is required by a number (perhaps all) of government organisations AND successfully consolidates demand.

Let's take a simple example

One example of which much has been made is the appointment platform. This started life as a Ministry of Justice service for prison visiting where it provides an online visit booking service that replaces a (very) time-bound telephone-based service. The platform is providing many benefits for the actors in this scenario and led to the realisation that government has a lot of appointment systems all doing basically the same thing. It was even mentioned in an NAO report¹¹ as one of 12 digital areas for action in the 2015-2020 government.

However, it should be asked "Are all appointments the same?" Some attributes will be common e.g. date/time, booking slots, participants, purpose, etc. However, some aspects may vary depending upon the context. A prison visit could be a recurring event whereas others such as a DWP benefits check might be a one-off. In the prison visit context, it may be necessary to restrict some visit applications due to risk to the visitor, the prisoner, previous illegitimate associations, etc. In the DWP case, different concerns are likely to prevail. The citizen might be asked to attend a specific office for some reason and might not know the area or that specific location. An experiment a few years ago demonstrated that the simple expedient of including a street map on the invitation increased attendance rates as the event is usually at the behest of the department. In the prison case, it is a friend or relative of the prisoner that initiates the request and a map of the prison's location is arguably redundant.

These two scenarios illustrate that there can be a range of requirements and a common appointments platform could get quite complex. This could lead onto sets of additional requirements for different scenarios, possibly even differing within a single organisation. There will always be 'edge' cases and platforms should not be over-engineered. However, a lowest common denominator approach will not encourage their (re)use, so they need to be designed to a level that does consolidate demand and thus drive adoption of the GaaP approach as a whole. This will involve collaboration with a range of stakeholders, especially future consumers of the platform but including the supply side as well.

Such additional work is not a primary interest of the initiating organisation who are likely to be unwilling or unable to support the entire lifecycle of any given platform.

A current operational model

GOV.UK Verify does have a business model that appeals in that it is largely implemented by a number of Identity Providers (IdPs) who are private sector organisations. The IdPs provide citizen choice and, from the government side, freedom from lock-in (although it will be interesting to see the citizen reaction if their IdP of choice is “turned off” or disappears for some reason).

Following verification by an IdP, there is a common route or hub into the government department that is running a service. This is the common part of the service with the IdPs providing their (slightly differing) functionality via a set of standards that have been defined at the business level and for interfacing to the hub. The departmental system provides the authorisation that permits access to their service.

This points towards a potential generic model for the structuring of platforms with a common platform component and a part that relates to a given scenario or situation.

The common component will, necessarily, be more complex than a simple one-off solution and guidance needs to be developed to encourage government and other organisations in specifying and developing platforms so that they can be used by others. This would largely be pushing the mantra of “designing for reuse”. Publishing APIs, standards used and other platform information would allow others to provide the additional functionality for specific scenarios whilst reducing their development effort by exploiting the common platform component.

Is that it then?

There are a range of other (largely non-functional) considerations for example:

- How will the platform be deployed to make it available to others? There are various options but it is unlikely that one size will fit all.
- How is the platform to be accessed? It should be noted that a business service is likely to require use of a number of platforms.
- How will the cost of the platform be recovered? Even if resource charging is not involved (although the desire to use cloud services implies that it will be required), performance and utilisation metrics will be necessary for configuration management and impact analysis purposes. This might be relatively simple within a given platform but an end-to-end service requires standards (and perhaps a common platform) to manage these aspects.
- Who will manage the platforms – both individually and as a loosely coupled group? As well as the charging and performance aspects, there are a range of Enterprise Management responsibilities and the engineering provided to support them that must be addressed. These include SLA management, deployment, support, licencing, technology refresh, etc. Experience with cloud-based systems shows that the responsibility for EM for any given platform may rest with several organisations and vary over time

What about data?

One aspect that has been identified as a possible platform is data. It is specifically mentioned in the GDS video which states “Platforms can be opened up too, allowing 3rd party services to use government data”. It is encouraging that the GDS executive director has been appointed as the first Chief Data Officer (CDO) as an adjunct to his earlier role¹³. This means that he will also lead on national data standards and government information sharing strategy. This is an important area where existing initiatives need to be drawn together in the aim to treat data as a public asset and open up data flows across Government. It is vital that a clear framework for open, personal and shared data is developed¹⁴ and implemented across all platforms. Failure to do so will engender further public distrust of government and seriously impede benefits realisation from GaaS. In short, this is another area for which guidance is needed.

Does this all mean that the concept of GaaS is flawed?

No. However, the above does identify a few of the technical aspects that need to be considered for GaaS to be successful.

The platform concept has been likened to the Apple model for its iPhone. The iPhone is made up of many components and is sold as a platform composed of an integrated collection of hardware components, processors, audio, features, screen capabilities, accelerometer, NFC, storage, external interfaces, etc. packaged with key software components such as the operating system and external services such as the App Store and iTunes. These services allow users to leverage the platform’s capabilities and supplier organisations to use it as a route to market.

Development of such a platform is not trivial and is achieved via a set of processes and capabilities that are jealously guarded by the Apple organisation so it can provide an attractive and usable offering to the user and supplier ecosystem. In the same way that Apple didn’t just cobble together its platform, GaaS cannot be randomly developed. An architecture is required (albeit probably more open than the Apple example).

Some of the skills required for such an endeavour will require the application of skills outside the modern digital model. Without a disciplined approach at the platform level, the GaaS developments will be doomed to fail.

However, done properly with appropriate engagement, participation and collaboration with all stakeholders, the prizes are great – possibly even approaching the vision of one commentator¹⁵ who claims that GaaS could deliver public services cheaply enough to avoid the need for future austerity.

Moving the debate forward

For GaaP to become a reality, Government needs to facilitate as broad a conversation as possible. This must include policy makers, the centre of government, departments, local authorities, OGDs and the supply community.

This activity needs to jointly develop (and maintain) a full set of technical and data standards and guidance on their implementation. Various mechanisms could be employed for this, but an open communications channel, perhaps a Special Interest Group supported by social media, is needed to enable full and frank debate of the various technical aspects and the experiences gained in their application.

Alongside this, the centre of government needs to determine how the decisions reached can be communicated to those working to develop services across government and the supplier base. It also needs to address how existing contracts will migrate to the new target mode of working and the contracting mechanisms that will facilitate the ongoing transition for all.

Summary

So GaaP has a lot of promise and if it can go some way to ending austerity it would be unacceptable not to make it work. This note seeks to identify some of the technical areas that should be addressed. There are many more – technical, business and social - but without getting the ‘plumbing’ right, we will not have the opportunity or basis upon which we can address them. This note has argued the need for guidance and architecture. These are important foundations and it is worth the initial effort to develop them as, apart from anything else, it should provide a basis for ongoing iterative development of public sector systems with continued savings allowing public funds to be spent where they are needed most - on those who need a safety net, on the country’s infrastructure and building a better world for all.

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Links

1. Computing “Liam Maxwell: Open standards and focus on inter-operability has opened the way to ‘government as a platform’” 26th November 2014: <http://www.computing.co.uk/ctg/news/2383648/liam-maxwell-open-standards-and-focus-on-inter-operability-has-opened-the-way-to-government-as-a-platform>
2. HM Treasury & Cabinet Office “Efficiency & Reform in the next Parliament” December 2014: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/382552/Efficiency_and_reform_in_the_next_Parliament.pdf
3. Government Computing “GDS keeps Government as a Platform debate open” 6th March 2015: <http://central-government.governmentcomputing.com/news/gds-keeps-government-as-a-platform-discussion-open-4526718>
4. “Government must be a platform entrepreneur to deliver ‘digital 2.0’” Mark Thompson November 2014: [http://www.computerweekly.com/opinion/Government-must-be-a-platform-entrepreneur-to-deliver-digital-2-0?asrc=EM.ERU_34059118&utm_medium=EM&utm_source=ERU&utm_campaign=20140916.ERU%20Transmission%20for%2009/16/2014%20\(UserUniverse:%201055573\)_myka-reports@techtarg.com&src=5300738](http://www.computerweekly.com/opinion/Government-must-be-a-platform-entrepreneur-to-deliver-digital-2-0?asrc=EM.ERU_34059118&utm_medium=EM&utm_source=ERU&utm_campaign=20140916.ERU%20Transmission%20for%2009/16/2014%20(UserUniverse:%201055573)_myka-reports@techtarg.com&src=5300738)
5. <https://www.youtube.com/watch?v=ZzPU6Pdw05s>
6. <http://martinfowler.com/articles/microservices.html>
7. <https://www.digitalmarketplace.service.gov.uk/>
8. <https://www.gov.uk/>
9. <https://www.gov.uk/performance>
10. <https://www.gov.uk/government/publications/introducing-govuk-verify/introducing-govuk-verify>
11. “The centre of government: an update” BY THE National Audit Office 12th March 2015 <http://www.nao.org.uk/report/the-centre-of-government-an-update/>
12. Government Computing “Seven steps to GaaP Heaven” 26th March 2015 <http://central-government.governmentcomputing.com/features/seven-steps-to-gaaP-heaven-4540990>
13. Government Computing “Mike Bracken appointed first Whitehall chief data officer” 25th March 2015 <http://central-government.governmentcomputing.com/news/mike-bracken-appointed-first-whitehall-chief-data-officer-4540299>
14. Government Computing “Ethical frameworks and APIs dominate open data discussion” 20th March 2015 http://central-government.governmentcomputing.com/news/ethical-frameworks-and-apis-dominate-open-data-discussion-4537077?utm_content=buffer2357e&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer
15. “UK voters are being sold a lie. There is no need to cut public services” Mark Thompson 12th February 2015: <http://www.theguardian.com/public-leaders->

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