A Practical Approach to Application Modernisation for Government Agencies

vmware®

Table of contents

Introduction

Over the past decade, we've seen great innovation in enterprise technology and high levels of adoption amongst consumers. This has driven businesses everywhere to use digital tools to create a differentiated experience for customers and employees and win market share.

Although government agencies may not be motivated by profit in the same way private sector organisations are, the underlying trends shaping this move are the same. Citizens who have grown accustomed to products from companies like Apple or Google now expect the same user experience when they access any government service. Likewise, if a government agency wants to recruit high-performing talent, it needs to offer employees access to the same tools they've come to expect at a bank, telco, or insurance provider.

We live in an era in which a differentiated UX has become table stakes, and governments looking to keep their constituents happy can no longer ignore customer experience due to a lack of competition.

By renovating their approach to software development and project management, public sector agencies can unleash more powerful services at a faster rate and with greater success than ever before. But first they must get the basics right.

vmware®

What's driving government agencies to innovate?

There are two main forces driving governments to innovate.

First, although governments might not have the customer retention challenges present in the private sector, a consistently lacklustre experience can quickly become a political risk. So CX is a major priority.

Second, governments don't have an endless supply of cash, so efficiency is the other key driver. After all, money saved from efficiency gains in one area can be redistributed to more or better services in another.

Furthermore, much of this push to modernisation can be attributed to the large amounts of data government agencies have accumulated over time. This data can be used to develop improved citizen services at a lower cost to the taxpayer, and the sharing of this data across states or departments can help better coordinate government response to emergencies like natural disasters or a pandemic.

A cloud native approach is key to being able to use this data effectively, as any applications developed must be underpinned by scalable and elastic infrastructure.

At the same time, systems that aren't updated frequently enough are at risk of a data breach. So it makes sense for government agencies to tap into the continuous upgrades cloud services vendors make available with the software-as-a-service (SaaS) model.

Of course, governments are understandably sensitive about using public clouds due to the perceived security risk. This is where VMware Tanzu's approach to cloud native application development can help government agencies bring new ideas to market faster on any public or private cloud without modification.

VMWARE TANZU IS MODERNISING GOVERNMENT AGENCIES

• Create engaging digital services

  – Develop on-demand, personalized services for citizens

  – Improve real-time situational awareness for employees

• Make more efficient use of resources

  – Use computing resources and human capital more efficiently, saving both time and money

• Achieve comprehensive compliance

  – Meet and exceed multiple levels of compliance across different standards–whether you deploy on-premises or in the public cloud

  – Deploy with confidence

• Rapidly respond to emerging threats

  – Build software and quickly iterate to counter new and emerging threats

  – Develop innovative digital services that improve mission effectiveness

• Instill a culture of innovation

  – Learn modern application development methodologies and attract the best talent with a culture of software-driven innovation

---

vmware®

What are the main challenges facing governments in their modernisation journey?

In a broad sense, government agencies face some of the same technology challenges as other large corporations:

• Their core systems are dated and offer a poor UX.

• These legacy systems are nearing their end of life, which means it's difficult to find developers for them, thereby increasing the cost to operate and maintain them. A recent example of this is the *spike in demand for developers proficient in the "ancient" COBOL coding language*—from the 1960s—brought on by the pandemic, as the U.S. government sought to modify an unemployment claims system that hadn't been updated in decades.

• These legacy systems pose inherent security risks, and the old technology makes organisations slow to react when faced with an issue.

In addition, government agencies are subject to more regulations than their private sector counterparts. The guidelines set out by organisations like Singapore's *Government Technology Agency* or Australia's *Digital Transformation Agency* dictate the principles public sector organisations must adhere to when designing government services or procuring technology. These regulations should be viewed as helpful constraints, rather than limitations, as the stakes are much higher for government agencies if they're faced with a cyber attack or other disaster.

The presence of all these regulations means government agencies are typically slower than even the largest corporations in the private sector. But there's a reason governments have these in place, so public sector CTOs must find a way to modernise applications within these constraints.

With the sheer volume of departments, governments also face the challenge of standardizing the CX across agencies. For example, renewing your car registration in Sydney can be done in a matter of minutes, whereas some other government departments still send letters by post or fax. It's important that all government services provide the same frictionless experience.

Finally, there's the cultural aspect. Governments must have the right frameworks in place to attract the top talent. We've seen varying levels of success for government agencies adopting agile methodologies, and this is typically due to an inertia towards moving away from what was done in the past. Government agencies with strong IT leadership can create the right environment for modernisation success by taking a holistic approach and not creating pockets of innovation that leave a bottleneck somewhere else. Consider what agility means for your organisation and use that to inform your decision-making process.

vmware®

How can government agencies overcome these challenges?

To improve their current approach to app modernisation, government agencies can follow these three basic principles:

1. **Be user centric.** Put the customer or employee at the centre of everything you do.

2. **Become operationally agile.** Find ways to observe how your apps are working and how users react to them and create feedback loops.

3. **Don't create islands of innovation.** Zoom out and take a holistic view of your organisation and its specific requirements.

To get there, they must have the right people in place. A minister or elected official may sit at the top of that agency's hierarchy, so it's important that they have bought in to the modernisation process. But ministers rarely discuss specific products; they tend to be more concerned with whether the department is delivering outcomes to citizens. It's unlikely they'd be involved in anything particularly technical.

At an executive level, the main stakeholders to win over are the top IT decision makers—be they CTOs, CIOs, CISOs, or even the CDOs (Chief Digital Officer) we've recently seen government agencies introduce. There are also external stakeholders to consider at this level, including executives from other relevant government agencies, like the Singapore GTA or Australian DTA mentioned previously. It's important to get these executives to buy in from the start—part of the modern approach to software is the freedom to fail when creating innovative products. As the interface with the minister and the holder of the budget, its important execs are bought into the process your team will employ.

Below executive leadership, it comes down to agile coaches and leaders of individual projects. Make sure you have a strong product owner who can act as the customer or end-user advocate. They must have a deep understanding of customer needs and the ability to articulate these requirements clearly, and definitively answer engineers' questions. It's also helpful to have "champions" from various teams that can bring different thinking to the table and might recognize problems or think of solutions others might not.

Most government agencies tend to announce projects to the public anyway, so there will likely be buy in across the board by the time any project starts. Once you have that, it becomes a matter of understanding the challenges that will get in the way of ministers delivering the outcomes they have promised, so you need to get on the same page as far as understanding the problem and then look at how the technology will solve it for them.

Also consider what technologies are appropriate for your end users. For example, in some APAC markets, QR codes have a high rate of adoption, whereas until the pandemic they were largely ignored in Australia and New Zealand. Conversely, Australian and New Zealand government agencies have been more comfortable communicating with constituents via social media, whereas some APAC governments have been more conservative in this regard.

8-STEP MODERNISATION CHECKLIST

1. **Get buy in.** Make sure all the stakeholders for an application are brought into the modernisation effort.

2. **Set expectations.** Provide as much visibility as possible into the time and effort a modernisation project will require. Avoid overpromising and underdelivering.

3. **Restructure when needed.** Prepare for your organisational structure to evolve as modernisation efforts advance, but don't assume the approach other organisations have taken will work for you.

4. **Prioritize your portfolio.** When you have hundreds of applications that need attention, understanding how to prioritize the apps in your portfolio will have a huge impact on where you ultimately end up.

5. **Choose the right starting point.** Pick a few small projects that will start you off on the right foot and help you build momentum as you get further into your modernisation journey.

6. **Make technology decisions that work for you.** Don't base your technology choices on a viral blog you read from a flavour-of-the-month start-up. Make sure your technology stack helps your department achieve the target state you want to get to.

7. **Break down monolithic applications.** Plan carefully to break monolithic applications into more manageable, bite-sized chunks without worrying if you have ticked every cloud native checkbox.

8. **Pick platforms pragmatically.** Base cloud and platform choices on your department's specific requirements and capabilities.

---

vmware®

Where to go next?

Government agencies may be adopting new technology slightly slower than their private sector counterparts, but the positive is that in our experience most government departments now understand the "why" behind the importance of modernisation. This is evident in the current emphasis on CX we've been seeing.

The next step is for these agencies to get to the "what" and the "how." VMware Tanzu has more than 30 years of experience in bringing your people, processes, and technology together to build fast, sustainable apps to modernise your organisation's user experience and drive improved efficiency and citizen outcomes.

Our VMware Tanzu Labs offering enables collaboration with your existing teams to help them upskill and align delivery methods with your existing apps to effect sustainable improvements.

Schedule a free, virtual consultation with the *VMware Tanzu Labs* team today. Each session is tailored to your unique requirements or technical challenge, and we'll make sure you leave with actionable items that will make a difference.