

AWS Hybrid Cloud for Governments

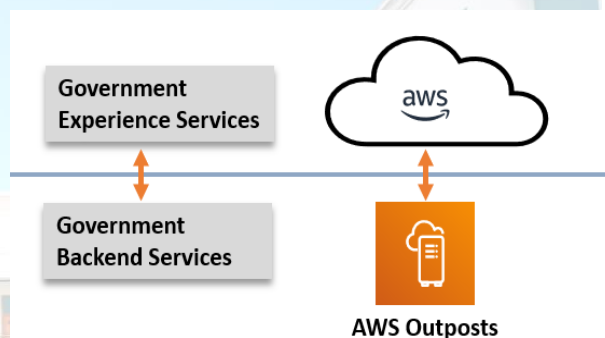


As Governments are undergoing their Digital Transformation initiatives, technology platforms perform a pivotal role to culminate these initiatives. It is very well accepted in the cloud community that there are not all workloads that are ready to consider the cloud as their home. There are plenty of factors and scenarios where Governments find it difficult to move their workloads to public clouds. It is indispensable to plan the IT strategy for these workloads which are integrated with the other services that might be sitting on the public cloud. There are essentially other requirements as well where public cloud can enable the hosting of some of the Non-sensitive workloads, acts as a backup environment for the workloads, and so on. The solution is to consider 'Hybrid Cloud' as one of the imperatives of the Enterprise cloud strategy.

Connecting the public cloud to the on-premises data center through VPN or Direct connectivity is not a Hybrid cloud. Hybrid cloud demands a unified way to manage these distributed workloads facilitating the seamless experience across the environments. Hybrid setup for the Governments can be implemented with various patterns aligning to Government cloud strategy. This blog will brief, few of the Hybrid scenarios for the Government workloads and how it can be set up with AWS Public cloud and AWS Outposts service offering.

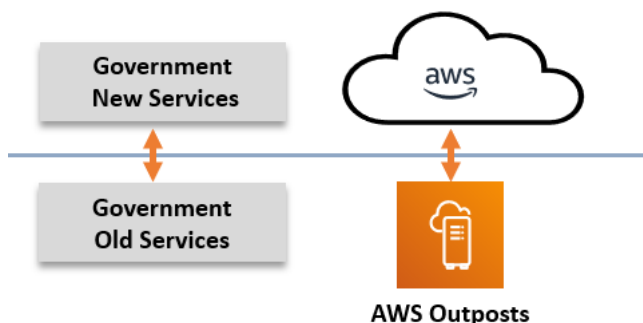
Enterprise Applications Layer Based Approach

With this approach, Government public-facing services can be deployed over public cloud interacting with backend core services such as Government's Open API public-facing services that can be deployed on Cloud and backend services can be on-premises. These public-facing services can absorb the traffic load spikes with the implementation of cloud autoscaling or native caching protecting backend Government shared services. These services can perform validation and transformation of the incoming requests before routing further to backend core services. These backend core services can be hosted on the AWS Outposts. This enables the core services to take advantage of AWS services on-premises providing end to end Hybrid unified experience.



New vs Old Services

Transition to cloud should not be a bottleneck for introducing new business capabilities in the organization. With Government's Cloud First strategy, new non-sensitive workloads should be targeted for the Public cloud while the old services can remain on-premises before transitioning to the cloud. To get a truly consistent Hybrid experience old workloads can be deployed to AWS Outposts taking advantage of AWS core services and then



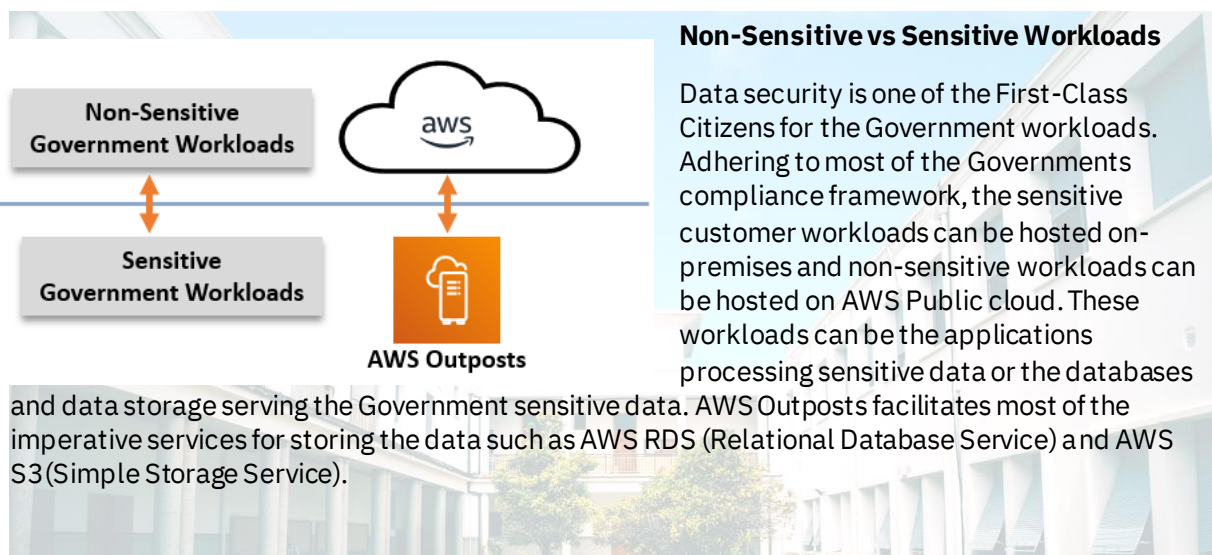
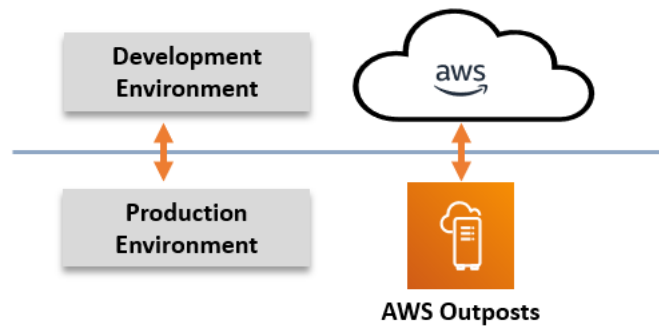
eventually can make their transition to the Public cloud if it is permitted by the compliance and regulations. This approach can make the workloads cloud-ready even if it is not allowed for the public cloud at present. This also ensures the old services teams to explore the AWS native services on-premises making themselves future skills proof.

Development vs Production Environment

The development and testing phase for application lifecycle can certainly take the advantage of the public cloud's capabilities of on-demand, spot instances to turn off the cloud resources when not in use. As lower environments generally work on dummy data, these environments can certainly be initiated on the public cloud. If the

Governments regulations are not allowing to move workloads to the public cloud this can

be one of the Hybrid Cloud strategies where Development, Testing environments can still be on AWS public cloud and the Production environment can be set up on AWS Outposts.



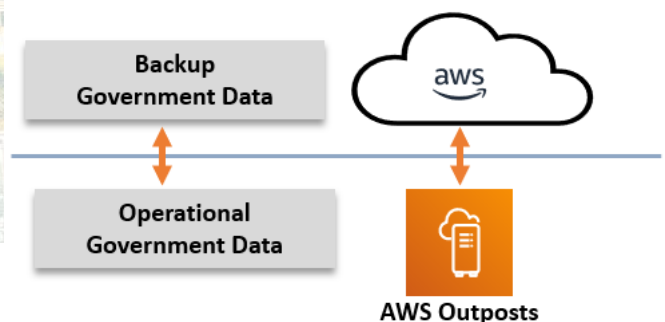
Non-Sensitive vs Sensitive Workloads

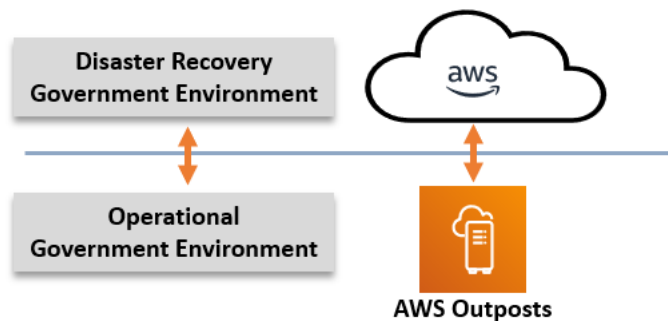
Data security is one of the First-Class Citizens for the Government workloads. Adhering to most of the Governments compliance framework, the sensitive customer workloads can be hosted on-premises and non-sensitive workloads can be hosted on AWS Public cloud. These workloads can be the applications processing sensitive data or the databases

and data storage serving the Government sensitive data. AWS Outposts facilitates most of the imperative services for storing the data such as AWS RDS (Relational Database Service) and AWS S3 (Simple Storage Service).

Backup vs Operational Data

As the governments ride on the huge repository of historic data, this data can be backup to the cloud's storage or archive systems costing at significantly lesser prices compared to on-premises. While the Operational data for the critical applications can still be continued on-premises, the backup data can be archived in the public cloud. Governments can utilize AWS Outposts' AWS RDS (Relational Database Service) and AWS S3 (Simple Storage Service) for storing data on outposts while the data can be backup in AWS Public cloud using AWS Glacier. This will enable Governments to reduce the operational cost of data storage significantly.





Disaster Recovery Environment vs Operational Environment

Government workloads are mission-critical demanding the High Availability and Disaster Recovery for Business Continuity. For such workloads, the Disaster Recovery environment can be set up on the public cloud while the operational environment can still be on-premises considering the sensitivity of

the Workloads. The operational workloads can be deployed on the AWS Outposts while the DR can be designed on AWS Public cloud. The DR strategy can follow any of the patterns depending upon the defined business SLOs.

Multi-Site (Active-Active) — Fully functional sites on AWS Outposts and AWS public cloud.

Backup and Restore (Active-Passive) — Data is backup in the AWS Public cloud and then restored during disaster situation. AWS Outposts with a fully operational version.

Warm Standby (Active-Passive) — Fully functional scaled-down version in AWS Public cloud. AWS Outposts with a fully operational version.

Pilot Light (Active-Passive) — AWS Public cloud with critical applications and data in a ready state so that it can be quickly retrieved if needed. AWS Outposts with fully operational version.

Increasing end customer expectations had pushed Governments to rethink their IT strategies. In this Digital Era, it's imperative to provide a seamless experience not only to the customers but also to the employees who should adapt to the public and private cloud IT environments seamlessly delivering the imperative business capabilities at the earliest. In the Government sector, where the budgets are consistently tight, it makes sense to adopt the Hybrid Cloud as a First-Class Citizen for the IT Architecture. Governments must try to leverage the Hybrid cloud services to meet the ever-growing demand of the end customers by utilizing the high-end computing of these cloud providers at the doorstep. AWS Outposts can help in establishing this Hybrid Cloud environment for the Governments helping them in their Digital Transformation Journey.

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