



GOVERNMENT SERVICE BUS

Smart Government Initiative

ABSTRACT

Government Service Bus is a key initiative as part of UAE mGovernment strategy. The Government Service Bus platform provides an integration platform to all Federal Government entities specifically and Local Governments entities to share information between each other. This paper provides an overview of the platform and how this effective and efficient data exchange between entities is leading to improving the quality of government services and thereby increasing the happiness of the people.

Introduction

The National Plan for UAE Smart Government Goals was initiated in 2014 in alignment with the national direction embodied in the UAE Vision 2021, the UAE National Agenda, and the Information and Communications Technology (ICT) Sector Strategy. UAE Smart Government launched a number of nationwide initiatives to enable and support the government’s overall transformation and started developing essential elements in this context, including shared Information and Communications Technology (ICT) infrastructure and services which government entities can leverage and use throughout their journeys of transformation.

The Government Service Bus (GSB) project comes as a response to the directives of H. H. Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, to connect services, increase quality of applications and raise customer satisfaction during the next stage of transformation.

Background

The United Arab Emirates (UAE) consists of various federal government and local governments per emirate. Both federal and local governments provide numerous services to UAE citizens and residents. However these services were provided in silos causing the people to carry various documents and travel between different government entities because of dependencies between entities in providing a service.

This has also caused issues such as data duplication in every government entity as entities need to collect and store data in multiple places, outdated data due to lack of integration, and data stored & shared in different formats and states.

There was a need to provide an integration platform at the national level to provide unified and integrated government services to the citizens and residents to address the existing challenges.

Challenges

High Number of Entities and its Services

There are more than 35 UAE federal government entities and various local government entities in each emirate. The GSB platform had to support continuous onboarding of these entities and their services on the platform. The platform had to support high number of service transactions and have the capability to scale to ever increasing needs.

Reference Implementations

In order to have the best of the platform offerings, numerous studies were conducted to look at government service offering platforms across the globe including, but not limited, to the governments of Estonia (X-Road) and Saudi Arabia (yessr). Even the UAE local integration platforms implemented at Dubai (DSG) and Abu Dhabi (ADSIC) were analyzed. All these platforms were evaluated to understand their strong offerings along with the capabilities which were lacking in their platform. At the time of implementation, none of the above platforms had either the scale of number of participating entities or all the capabilities that was being envisioned for the GSB platform.

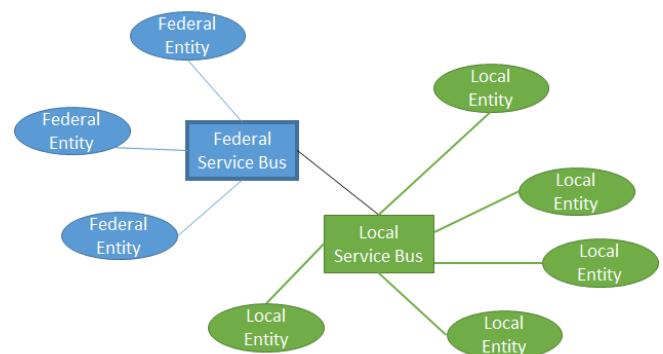


Figure 1 Integration between Federal and Local

In addition, none of the implementations had to deal with the hierarchy of ESBs as in the case of UAE as shown in the figure above. GSB Platform was envisioned to also integrate with the local service bus platforms of each emirate while ensuring the right set of governance policies are in place to distinguish and support the federal to federal integration and federal to local integration.

Technology

Apart from the key capability of providing a service hosting platform for the government entities, the GSB platform had to ensure that it had the following additional capabilities like -

- Catalog of services
- Overall service governance including security
- Overall service monitoring including service availability

A massive evaluation exercise had to be carried out covering the available technology choices such as building the platform from scratch using various programming technologies, using packaged products etc. Analyst vendors like Gartner were consulted to understand the packaged product capabilities and its shortcomings in implementing such a crucial platform. The technology product as well as the service provider implementing the solution was identified as part of this exercise.

GSB Platform Overview

Few of the key architecture goals met as part of hosting the centralized platform on the Federal network (FEDnet) are -

- Build a centrally managed and highly available integration platform
- Encourage data sharing and service reuse between government entities
- Maintain, govern and provide visibility into the life cycle of the services

- Govern the integrations between government entities to ensure high quality
- Provide a safe and secure platform for the services

Service Catalog

GSB platform hosts the service registry and repository which provides the web based user interface for users from government entities to access the service catalog. The service catalog has all the information about the services hosted on the platform thereby promoting more re-use across the government organizations.

Availability & Scalability

The GSB platform does not have a single point of failure. All the components of the platform have redundancy (hardware and software) and the platform is immune to any disasters by way of having a separate Disaster Recovery environment.

The platform is capable of handling transactions from services across multiple entities. The platform is built in such a way that it can be easily scaled vertically or horizontally.

Security

The entire platform is a highly secure platform designed to satisfy the security requirements of the inter-governmental communication by having multi layered security covering the infrastructure as well as the application components. The authenticity, confidentiality, integrity and non-repudiation of exchanged data are maintained.

Performance

The platform is able to cater to more than 3 million transactions per day coming from across the federal and local government entities. The platform has been tuned to be able to respond with least latency, by utilizing features such as caching and effective memory management.

Monitoring

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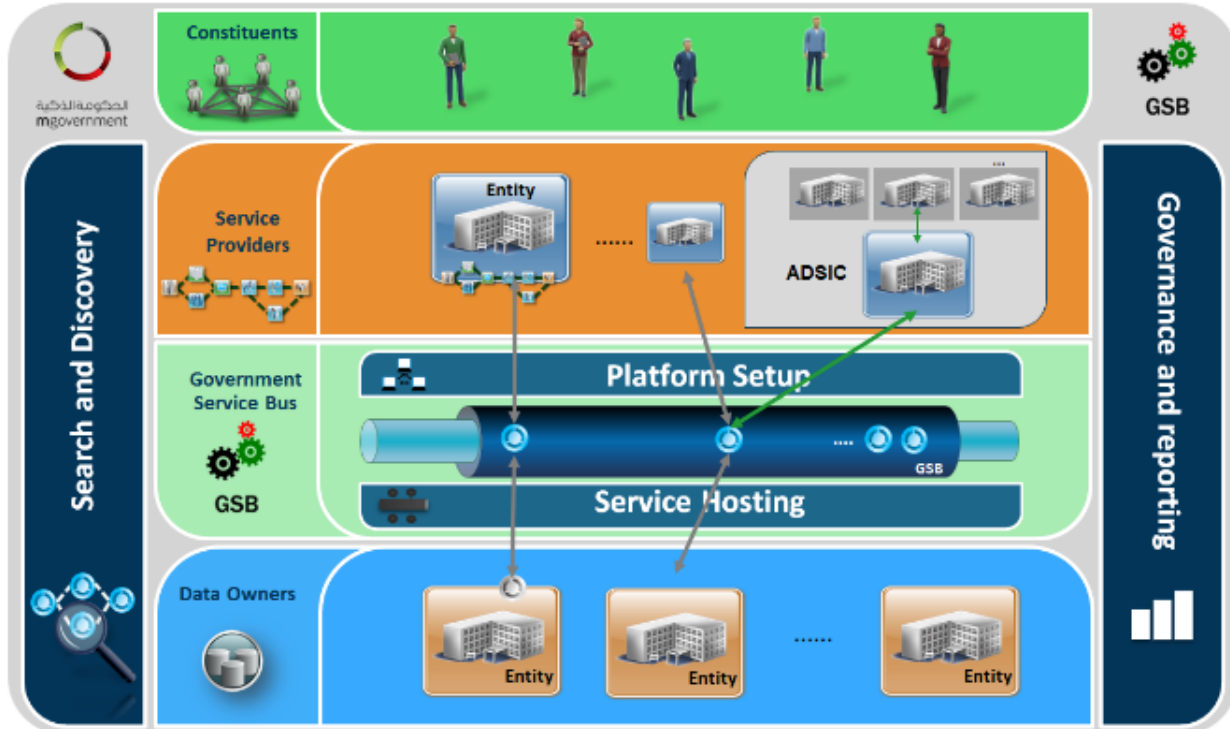


Figure 2 Platform Overview

GSB platform is the backbone for integrating between the government entities. Given the significant role played by this platform, the infrastructure, application components and the services are continuously monitored for any issues. In case of any issues, real time alerts are generated to handle these abnormalities.

Benefits

Some of the key benefits of implementing a standards based integration platform are:

- Automation has proven to bring significant savings and raise the efficiency of government work. When processes are automated, users can be freed from tedious and routine tasks. For instance, when a governmental organization needs data from another organization, its information system can automatically request the necessary

governmental organization.

- Significant improvement in government services to citizens/residents
- Decreased nationwide service delivery complexity by providing a centrally managed integration infrastructure rather than many separate point to point integrations
- Improved service security by building standards based tools into the integration platform
- Cost optimization by allowing the GSB to absorb common development tasks, tools, and software needed to accomplish common government service integrations

The number of transactions which the platform handled so far exceeded 13 millions transactions, with more than 90 services from federal and local entities.

Conclusion:

The Government Service Bus has been a key enabler for the various Federal entities to exchange data and improve upon the business services that are offered to the end customers. Building upon the key capability provided by the Government Service Bus, UAE government has been able to provide additional service bundles such as Mabrouk Ma Yak, Bashr etc.; these service bundles are redefining the way government entities offers its services and helping the UAE government on improving its international ranking.

For more information refer to:

<https://government.ae/en/information-and-services/g2g-services/government-services-bus>