



Success Story NSW Spatial Services

Data Lake Strategy



Finance, Services & Innovation

Spatial Services, a division of the NSW Department of Finance, Service and Innovation, converts the wealth of land data it collects into a comprehensive and authoritative range of online and hard copy mapping products and services. These products and services help support a vast range of community, business and government activity - everything from tourism and land management, to electoral boundaries and bush fire control.

As the official source of land information for NSW, Spatial Services is responsible for maintaining a digital cadastral map of the State, which shows legal and other approved boundaries applying to land, as well as a digital topographic map, which includes its physical and surface features.

Success factors:

500
Plans per day ingested into S3 and indexed

250
Validation tests

up to
2 days faster
processing of new plans

What challenges were DFSI: Spatial Services facing?

Spatial Services faced multiple challenges, mainly derived from the volume of data they must manage and deliver in a consumable format. These challenges included manual, inconsistent and disjointed data validation processes, lack of traceability of data, slow ingest processes with large amounts of manual handling, and difficulty finding and sharing data with stakeholders and citizens in an efficient manner.

To overcome these challenges, Spatial Services partnered with Bulletproof to implement a Data Lake Strategy.

Data Accuracy

Spatial Services have duplicate datasets being maintained across NSW which impacts the downstream usability of data. Bulletproof enabled a solution that provided easy access and integration via documented, standards-based APIs.

Automated

Ability to offer digital access to the Local Government agencies to retrieve relevant information and embed it in their citizen-facing systems and processes. This provides a foundational service that can be used to deliver quality improvements in services, staff and complaint handling.

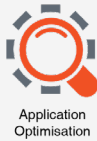
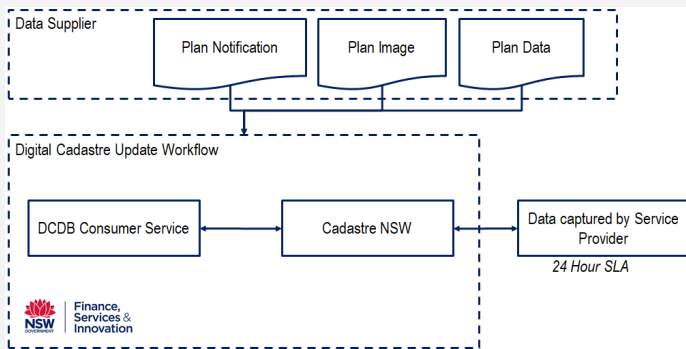
Traceability

The Data lake strategy provided a reliable solution that streamlined data ingest and validation, with end-to-end traceability, reduced errors, and increased efficiencies whilst providing an end-to-end audit trail. Metadata acquired during ingest and validation can be used for later data discovery.

Extensibility

The solution was designed by Bulletproof to utilise almost zero compute capacity, when the data is at rest, resulting in very low ongoing infrastructure costs. Its simplified approach to workflow will enable us to build upon and expand the service to bring benefits to more and more of the population.

What did Bulletproof provide?



Bulletproof have built an event-driven cloud native Data Lake solution for DFSI: Spatial Services. The solution uses:

- Serverless technologies to manage the flow of information through the system
- Recording meta data in a NoSQL database service
- Stores all persistent data in a content store for rapid low-cost access
- Serverless CI/CD is leveraged for the build and deployment process

What outcomes have DFSI: Spatial Services achieved?

- A source of accurate digital cadastral data to support more efficient land subdivision.
- Data-driven reforms to relieve pain points in property development identified by data collected.
- New business intelligence capabilities in the property sector that could be drawn on by both Government and industry.
- More efficient property development process, reducing holding costs and the cost of delivering new homes.



“We want our data sets traceable. We need it to be as automated as we needed to continue to move away from manual processes and leverage the specialised skills and capabilities of our staff. With Bulletproof, we were able to do these in a more logical, efficient and effective way.”

Adrian White, Program Manager - Cadastre NSW