



Case Study: Infrastructure Dependency Mapping

Customer challenge

As part of planning a complex migration of applications into a mixed cloud and CoLo environment, a global tier one bank needed to identify the infrastructure components supporting their applications and their interdependencies. The initial challenge was to import data from shared filesystems and storage to highlight potential planning conflicts.

How we helped

Citihub piloted a toolset developed by Tech Marionette called Mycelium, which creates a model of a customer's IT landscape. Mycelium takes data from multiple IT systems which describe their own parts of the landscape; applications from service management tools, server information from server inventories and storage information from storage devices. Mycelium maps all this information into a connected data model identifying relationships and creating a queryable data model.

Flexible installation process allowed a quick redirection from an initial set up in GCP, onto the client's internal cloud to support client priorities.

Identified 18 key sources of data covering servers, applications, two different SAN technologies, NAS, three different Database technologies and relate meta-data.

The two-week data modelling phase involved analysing, mapping and loading these data sets to build the core model. Once complete, a set of initial reports were provided. These reports were produced not just for the priority subset of applications, but for every application in the environment.

During the project the client requested additional data sources to be added to include Networks, covering VLANs and device dependencies, and user location information. In each case, the new data was sourced, analysed, mapped and loaded quickly and easily, allowing relevant reports to be produced within a day. The data was added to the model allowing these additional requirements to be delivered for every application.

Results

- Produced reports of filesystem and block storage dependencies for 200+ applications and 5,000+ servers extended beyond the initial in scope application to include all the applications in the environment.
- Rapid acquisition and mapping of data.
- Flexible to client specific data points and language, the model changed to accommodate the data, not the other way around.
- Identified previously unknown gaps in dependencies, database ownership for example.
- Extended easily to demonstrate EOL dependencies at all infrastructure levels, from networks up to OS.
- Output provided to existing BI platform.
- Highlighted multiple further opportunities to extend the dataset to model planning requirements, identify potential cost savings and key operational risks.



The combined data supported a server and application level analysis of scheduling options as well as enabling opportunities for risk mitigation. A traditional manual analysis of a single server required two days of analyst effort, with an environment comprising more than 2,500 servers in scope for the migrations.