# Solution Architecture

## What is it, and why should you care?

Solution architecture is a discipline of enterprise architecture that seeks to define and describe specific systems. It may be a system composed of systems, or it may describe a single system in detail. For example, it may show an element in a design that's identified as a "computing cluster", which is by definition a system of systems. The cluster may be a part of a wider solution architecture. Alternatively, the design could expand on the components of a single server, a single system, that's a member unit of the cluster to show details of its hardware, network, physical location, its operating system, software, and so on.Solution architecture is distinct from reference architecture which would seek to describe a wider viewpoint and commonly more closely coupled to higher level business motivations, goals, and strategies. Consider a reference architecture to be a sweeping description connecting the business goals to technology, and the solution architecture to be narrowly and specifically describing *how* to implement technologies to achieve said business goals.You should care about solution architecture because its value proposition is showing, in detail, how systems interact to deliver practical and measurable value to your business. It will provide a sufficient level of implementation detail to serve as a playbook for technical roles (such as scientists, developers, and engineers) responsible for instrumenting and delivering a system. It will facilitate regular course correction during the implementation to mitigate scope creep. It will serve as a record of reference for partners and stakeholders. Developing a vetted, solid solution architecture before starting a project will ensure that your business does not spend valuable, and likely expensive, cycles going in less than optimal directions with your deployment.Having defined solution architecture, let's now look at our example by walking through the strategy, business, data and application, and technology layers of the design. The designs shown below are done using the ArchiMate modeling language.