To start with, I’m going to talk a little about what Rates does. As you can see in the diagram, G10 rates falls under Market & Securities Services and Fixed income markets.

G10- group of 11 industrialized countries that have similar economic interests and cooperate on international financial matters. The products that come out of G10 rates include securities such as bonds issued by the govt of these counties, exchange traded derivatives, and OTC interest rate derivatives such as swaps.

G10 rates tech itself has several departments: e-Trading, TPS, MTFD, and risk.

We specifically interacted with the IMM and pricing teams

IMM – buys/sells securities within Citi

Pricing – adjusts prices on securities based on market trends

This is basically how the current version of Glance executes checks and retrieves data. The UI makes calls to something called MkvFetch (which is a rest API) which then requests info from MarketView, which is an event based data bus, and returns specific data or status of a check.

One of the improvements we have made on the checks side is simplifying them by allowing users to write SQL queries to complete their tasks. We have configured the classes that handle communication between the Glance UI and the ignite server to accept and retrieve data through SQL queries. As you can see above, this will reduce the number of lines of groovy code needed to accomplish a tasks and the Production Support team will not concern themselves with the methods that otherwise would have been written by us.

This is a diagram to help us visualize how the backend architectural changes. On the left, we have the current model of Glance and on the right we have the model we are working towards. As you can see, we are completely replacing the MkvFetch with our Ignite cluster, which has multiple nodes. The cluster fetches data from Mkv as needed and holds it in cache. We are also working towards moving all of the checks out of Glance and into the ignite cluster so all of the computations can be done within the cluster. And all Glance will be doing is fetching the status of a checks from the cluster. This will lift a lot of weight off of glance and make the overall performance much faster.