Remote collaboration with Revit

While technology makes it easier for people to work together, people are spreading further and further apart. Employees are dispersed between multiple offices, work from home or on the road, and sit in different cities and different countries. For example, CASE has 40 people working from nine cities in North America, South America, and Europe; HP has approximately 300,000 people working from more than 170 countries.

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TYPES OF COLLABORATION

There are two primary ways to use Revit remotely. The first is to use virtualization. In essence, you use your computer to virtually control a computer already inside the local network—a bit like sitting in another office and sitting in different cities and different countries. For multiple offices, work from home or on the road, and sit in different cities and different countries.

The advantage of virtualization is that you can interact with others on the network as if they were all local to one another. They are essentially part of that network. They can sync and check out works just like they would on the local network. The main downside is that the connection is being made through the internet rather than the local network. This method can become extremely slow if the connection is bad or the VPN swapped with other connections.

Revit Multisite gets around some of these problems by creating local copies of the central server. These local copies are called accelerators, and each office can have their own accelerator. Users get the speed benefit of working locally, while the accelerators send data between each other. In the background to ensure everything is in sync. There is some cost and time involved in setting up the accelerators, so unlike a VPN this isn't a solution you can quickly access on the road. For permanent workplaces, this solution works well. Users may find the multi-server/accelerator setup confusing, so some time should be set aside to teach best practices. Both VN collaboration and Revit Multisite can benefit from WAN collaboration. Essentially a device like Panzura Controller or Riverbed Steelhead is placed at either end of the connection between offices. These devices compress the data as it is sent, which significantly reduces the amount of data being sent. While effective, they are unfortunately expensive, so perhaps not suitable for every office.

HP REMOTE GRAPHICS SOFTWARE

Will go into virtualization in depth in a future article. For now, suffice to say, setting up VPNS and server accelerators are not the only way to collaborate remotely. If you want to experiment with virtualization using the infrastructure and equipment you have today, you might want to try HP’s Remote Graphics Software (RGS). With RGS, you can log on to a remote workstation and control it from wherever you are. This means that the workstation can be on the same local network as the Revit Server, allowing super fast model syncing even though you are not part of the local network.

On large projects it may be necessary to use multiple models. To avoid coordination issues, the models should not be dependent upon one another. Ideally each model would encapsulate an isolated aspect of the project. For example, a multi-tower development might place separate buildings in their own independent models. Whatever the segregation strategy, it is important that the project team understands the model structure. This is especially pertinent if those working remotely have come from outside your organization, and are therefore, unfamiliar with your working methods. These project standards should be agreed upon at project kickoff and then documented in the BIM execution plan.

NETWORK CONFIGURATIONS

There are a number of ways users can set up a WAN connection. The easiest is through a VPNA connection. Once users establish a VPNA connection to the network hosting the central server, they can be essentially part of that network. They can sync and check out works just like they would on the local network. The main downside is that the connection is being made through the internet rather than the local network. This method can become extremely slow if the connection is bad or the VPN swapped with other connections.

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