

2. Remote Access Requirements for Master Controller to View HQ
In order to maintain, monitor, and configure these elements, View Personnel need consistent remote access to the site Master Controller.

What we use it for:

1. Initial Commissioning and installation
Once the Windows and control system is physically installed, we will test each cable as well as each glass unit for operation. We will then setup the zoning and other parameters of the system. This will take place with a technician on site as well as with View personal accessing remotely for certain parameters (ie photo sensor accuracy, Intelligence parameter adjustments)
2. Ongoing performance monitoring, error and fault monitoring, and ongoing upgrades
Since this is a new system for most occupants, as they move into the new space and begin to interact with it, they may want to modify performance of the glass for their particular needs. In these cases, it is necessary for View to have remote access to modify parameters and monitor results. During ongoing normal operation we can routinely monitor performance of the system to make sure occupants are comfortable. Additionally, we can monitor hardware components for any errors.

What type of information does View Glass pull from the View Control System?

We only pull information from the View components- the Master Controller(s) in the system.
Information we will download:

- Intelligence calculation data. We download and analyze the performance data of the system.
- Window controller data: We download and monitor the critical data from each window controller in the system.
- User Control data (App, wall switch): We will monitor when users switch the tint levels of the glass, to understand their needs.
- Photo Sensor data: We monitor actual photo sensor (solar) data at the site, so we can compare the data to the user control and automatic control for performance.

NOTE: No personal user information that is stored on the App is pulled from the control system.

Options for Connections:

We understand security is a major concern. Our desire is for constant access to the View components on your site, while keeping security concerns as low as possible. Options we have employed in other sites include:

1. Connection through your firewall via port mapping or DMZ
2. Connection through your firewall restricted to the View IP address range (for extra security) via port mapping or DMZ
3. Connection through your firewall with VPN access
4. Connection through a Guest/Vendor network that is separate from your business network.

3. Ensuring the View App will work in the system
In order for the View App to operate properly, the App must be able to communicate “directly” to the Master Controller via HTTP port 80. As seen in the block diagram, it is important to consider operation for users both inside and outside the corporate network/firewall.
4. Private VLAN for the View Control Panels to communicate
In cases where there are multiple View Control Panels installed, such as in buildings with multiple floors, it is necessary for the controls panels to be connected on a private LAN. This is either accomplished via a hardwire Ethernet to each building, or through the corporate infrastructure via a VLAN. This needs to be a private LAN, as there is critical communication to/from the View controllers that utilize broadcast UDP traffic.
5. BMS System
If the View Glass system will be connected to the building management system, then a provision for connecting the systems together must be considered. The View Master controller communicates via BACnet over BACnet IP when connected to Building Management systems. See separate View documentation for BMS integration.

IT Connection Technical Details:

1. Connecting via DMZ:

IP Address:

Routable IP address for the Master Controller, such that the App is able to connect to it.

Inbound/Outbound Requirements:

Usually no restrictions. If restrictions added, follow below port mapping.

2. Connecting via port mapping

IP Address:

Routable IP address for the Master Controller, such that the App is able to connect to it.

Inbound Requirements:

HTTP Connection (default port 80, but can be set to something different)

Secure Shell port 22

Port 3389 (used for service technician access)

Port 10000: system management and remote software update

Outbound Requirements:

Port 80: allows the App to connect to the Master Controller

NTP access

DNS access

FAQ:

Q: Do you push information from the system to the cloud, or do you login and pull data from the controller?

A: We login and pull data from the controller.

Q: What benefit is it for us to give you remote access?

There are many benefits to providing internet connection to the View Glass system. A few include:

We (View) are able monitor and adjust the system for user comfort as needed (for glare, comfort, etc) We are able to continuously monitor the system for any errors.

We are able to monitor the system for performance to the design specifications (ie heat load design).

Q: Does someone on our end need to maintain it?

A: Generally no, once it is setup by collaborating with your IT department it requires no maintenance on the customers' end UNLESS something changes and connection is lost

Q: What if the remote connection is turned off?

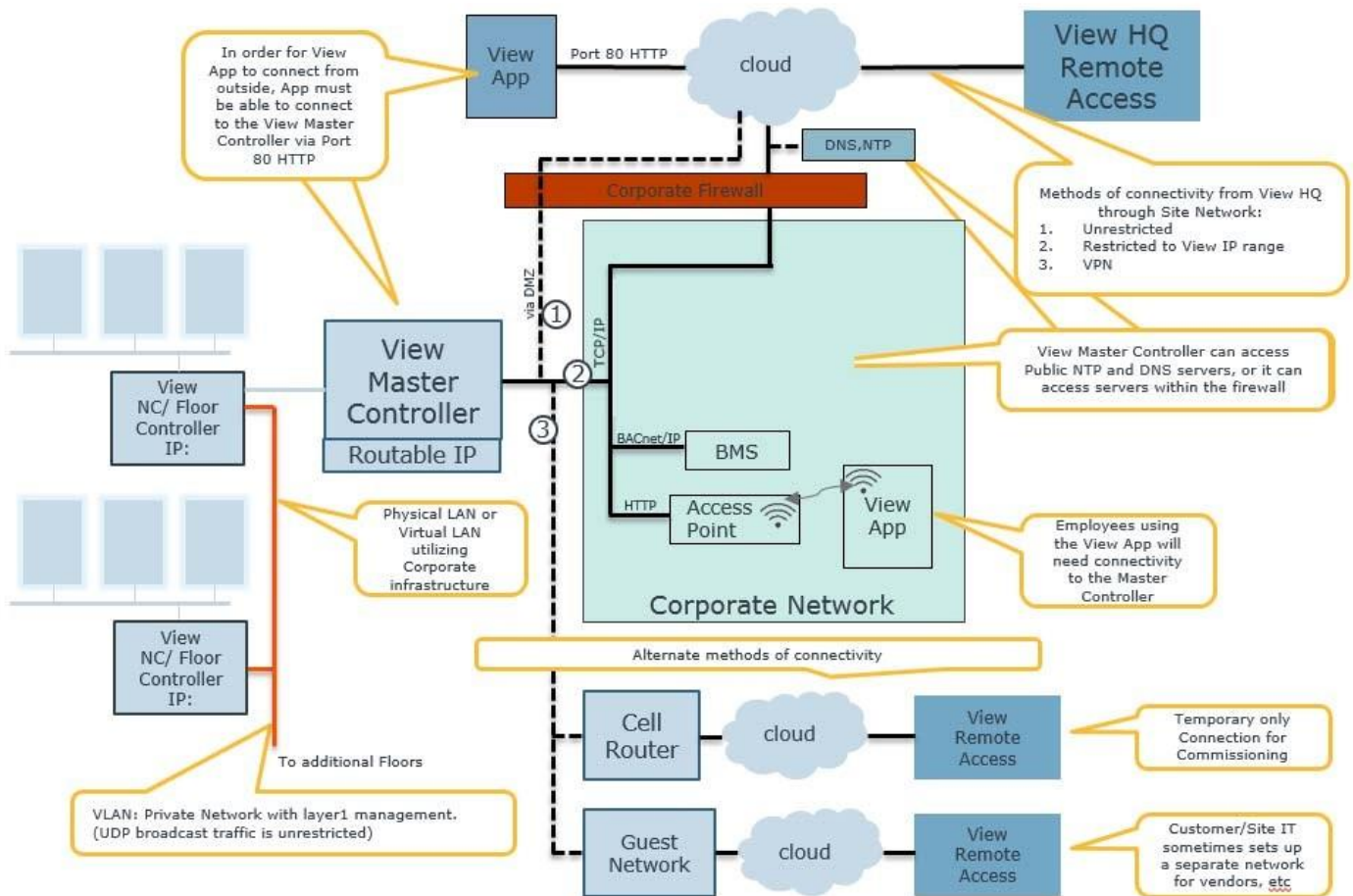
A: The View control system is self-contained and will continue to operate as configured prior to connection lost. It will recover and re-sync with the network when connection is restored.

However, since the system gets its time update from the remote connection, it's important to restore connection as soon as possible. (If daylight savings occurs while the system does not have remote connection, then the schedules and other items may be out of sync until the times are synchronized.)

It is also important to restore remote connectivity as soon as possible so that View personnel will be able to monitor performance, discover system issues, or make any modifications for the users.

For the ongoing health and optimization of your system, as well as the ability to service the system, we strongly recommend View maintain constant connectivity to the site.

Connection Block Diagram:



Support

For more information, please contact View at support@viewglass.com or 855.478.8468.