IT Pro related questions – Frame Remoting Protocol & Networking

- Can users expect the same performance as on a local physical PC?
- What are the most common causes of poor performance?
- Does Dizzion use Microsoft RDP or another 3rd party protocol?
- Does Frame Remoting Protocol work as well or better than others?
- What are the firewall port requirements?
- How can I test if the firewall and ports are setup correctly?
- Should we prioritize FRP and setup QoS?
- Do you have insights into how FRP works in different network configurations?
- Do you have insights into how FRP compares to others?
- Do you support advanced networking capabilities?

Can users expect the same performance as on a local physical PC?

It depends; it should. When properly designed and managed, virtual desktops can match or even exceed local PC performance. Success depends on selecting the right workload VM (on-prem or cloud) and aligning resources like CPU, memory, storage, GPU, and network with the needs of the operating system and applications. Make sure you know before you go!

What are the most common causes of poor performance?

Common causes include under-sized workload VMs or on-prem infrastructure, poor home or last-mile network availability and quality, misconfigured firewalls or QoS settings, constrained or limited datacenter bandwidth, and weak end-user devices that struggle to decode the remoting protocol. Misconfiguration of Dizzion DaaS and Cloud PC session settings. Clear communication and setting the right expectations with end users also play a key role in the overall experience.

Does Dizzion use Microsoft RDP or another 3rd party protocol?

No, Dizzion isn't using RDP or any other 3rd party Remote Display Protocol. Dizzion DaaS and Dizzion Cloud PC (both based on Frame) use Frame Remoting Protocol, the latest remoting protocol based on WebRTC. By default, FRP uses UDP as its transport layer and can fall back to TCP if a UDP connection is unsuccessful at the start of the session. TCP can also be forced. FRP also streams audio and video from the remote virtual machine to the end user's device, keyboard/mouse events, and input audio from the end user's device to the remote virtual machine. Additionally, FRP enables users to stream their webcams from their endpoints to the remote virtual machine. With Generic USB redirection enabled, users can access their endpoint-attached USB devices from their remote virtual machine. H.264 and AV1 are available codecs; AV1 requires the latest NVIDIA Ada Lovelace (L) or higher GPUs for capture and encoding. 90+% of today's Frame sessions are using FRP.

Does Frame Remoting Protocol work as well or better than others?

Frame Remoting Protocol (FRP) is a modern protocol that performs as well as, and in many cases better than, other remoting protocols. It uses WebRTC over UDP or TCP for transport and supports H.264 and AV1 codecs. Designed for the cloud era, FRP delivers the best experience when bandwidth is sufficient, latency is low, and packet loss is minimal. While it can still operate under constrained network conditions, testing and validation are key, as with other protocols like Citrix HDX, VMware/Omnissa Blast, or Microsoft RDP.

What are the firewall port requirements?

The firewall port requirements for the Frame Remoting Protocol depend on the network deployment model: Public Networking, Private Networking, or Private Networking with SGA. Details on required firewall rules, FQDNs, and ports for each model can be found here:

https://docs.difr.com/books/platform-administrators-guide/chapter/networking

How can I test if the firewall and ports are setup correctly?

You can verify network connectivity from the end-user device to the SGA by using test.dizzion.com. It checks if the necessary ports and protocols are open and functioning properly.

Should we prioritize FRP and setup QoS?

QoS – Silver/Gold/Diamond, DCSP, UDP - TCP

Do you have insights into how FRP works in different network configurations?

Yes, look at https://ux.dizzion.com and https://eucscore.com

Do you have insights into how FRP compares to others?

Yes, don't hesitate to contact Dizzion for more detailed information about Citrix HDX, Microsoft RDP, Omnissa Blast.

Do you support advanced networking capabilities?

Customers can decide whether to use Frame-managed or customer-managed networking for public cloud infrastructure. With Frame-managed networking, the Frame control plane provisions (and de-provisions) the necessary network resources (e.g., VNET/VPC, subnets, security rules/security groups, routing rules, NAT Gateways) for each Frame account. The customer can specify at Frame account creation whether the Frame account will use:

1. Public: all workload VMs have public IP addresses and are directly accessed by users from the Internet.
2. Private: All workload VMs have private IP addresses, and users must access them through a private network connection.
3. Private with Streaming Gateway Appliance (SGA): all workload VMs have private IP addresses. However, users can access the workload VMs through one or more SGAs from the Internet.

For customer-managed networking (supported with public cloud and Nutanix AHV clusters), the customer provisions (and de-provisions) the necessary network resources, and the Frame control plane only provisions (and de-provisions) the workload VMs in the designated VNET/VPC/VLAN/subnet. Customers can then ensure that the networking architecture, configuration, and management conform to their corporate standards and choose:

1. Private (as described above)
2. Private with Streaming Gateway Appliance (as described above)

With the above, Dizzion can deploy and manage VPNs, VTIs, SD-WANs, and direct private connections to meet the customer's needs.

Customers can place their AHV clusters anywhere worldwide, provided the cluster can communicate with the Frame control plane.

For AWS, Azure, and GCP, all regions, excluding China regions, are supported. For IBM Cloud Virtual Private Cloud (VPC), all Multi-Zone Regions (MZRs) are supported.