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Virtual Matrix Intercom System Requirements

OPERATING SYSTEM REQUIREMENTS

The Virtual Matrix can be installed on virtually any supported Windows based operating system however Windows 10 Professional x64 or Windows Server 2016 x64 are highly recommended.

MEMORY REQUIREMENTS

The memory requirement for the Virtual Matrix are very minimal and system size does not realistically need to be considered. It is recommended to use 8GB of memory with any modern OS which will also provide sufficient resources for operation of the Virtual Matrix.

STORAGE REQUIREMENTS

The storage requirements for Virtual Matrix in the standard configuration are not substantial but some incremental storage space is required for Activity/Debug Logs. In the standard configuration, a minimum of a 128GB SSD is recommended although a 256GB SSD is preferred. The SSD is specified only for reliability.

If the system is configured with audio recording, additional diskspace may be required. Recording in WAV file format, at the default audio sampling rate of 32KHz, would require 225 MB per recording hour but after MP3 compression will likely be 10% of that value. As an example, if recording 1 channel with active audio for 5 hours per day for an entire year, it would require an estimated 40GB of disk space. When the system is configured with audio recording, a TB drive is recommended.



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COMPUTATIONAL REQUIREMENTS

The computational requirements for the Virtual Matrix depends on the number of active connections to the system and how the system is being utilized. In a “Heavy” use configuration, there would be many users simultaneously monitoring multiple audio sources including multiple conferences with large groups of users. In a moderate use configuration, there would be many users simultaneously monitoring single sources or conferences with smaller groups of users. In a “Light” use configuration, there would some users monitoring audio sources and conferences while other users just periodically communicate with specific other users. To determine the computation requirements each of the use cases is assigned a value for the ‘# of Connections’ relative to the ‘# of CPU Cores’ as follows:

# of Connections	# of CPU Cores		
	Heavy	Moderate	Light
	50	75	100
100	2	1	1
200	4	3	2
300	6	4	3
400	8	5	4
500	10	7	5
600	12	8	6
700	14	9	7
800	16	11	8
900	18	12	9
1000	20	13	10
1100	22	15	11
1200	24	16	12

The CPU itself must have an average CPU benchmark (aka CPU Mark per PassMark) of approximately 1250 per core. If the CPU does not meet this criteria, the data provide must be scaled appropriately.

For reference, the standard server provided by Intracom has an Intel Core i7-8700 with 12 cores and a [PassMark](#) benchmark of 15222 or an average of 1268 per core. With the above recommendations, the server can support 600+ connections in a “Heavy” use configuration, 900+ connections in a “Moderate” configuration or 1200+ connections in a “Light” use configuration.



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Additional factors effecting computational requirements outside the scope of this document would be the co-location of the Device Interface with a Dante Virtual Sound card on the same server as the Virtual Matrix.