Client Requirements (jtel Container Stack)

Client Types

Clients in the jtel environment can be of several different types.

Client	Functions	Comments
Full Web Client	Agent Home Supervisor Wallboard Configuration	The Full Web Client is a web application that is accessed via a browser. It is suitable for use on a normal PC or laptop, as well as for access via mobile tablets. Although it can also be operated via a mobile phone, the display may be too small in some cases to allow for meaningful operation. Full web clients can also switch to the mini client view.
Mini Client Web	Agent Home (Mini View)	The Mini Client is a smaller version of the agent client that only requires a fraction of the screen size compared to the full web client. It can be easily operated on the right or left side of a screen so that other applications remain visible. It is also suitable for embedding in other applications such as web based CRM and ERP software (for example Salesforce or SAP C4C) that are capable of displaying a web page. Note: For embedding in locally installed fat CTI clients, special settings in the operating system configuration may be necessary for correct operation.
Mini Client . EXE	Agent Home (Mini View)	The Mini Client .EXE is an application that can be used under Microsoft Windows to host the mini client web view. It can be docked to the edge of the screen so that it occupies a permanent position that cannot be overlaid by other applications. Additional settings allow the client to be displayed only in the tray bar when idle and to "pop up" when calls or events arrive.

General Client Requirements

The jtel system requires a modern browser for operation.

Browser	From Version	Comments
Microsoft Edge	142	
Firefox	145	
Chrome	143	
Opera	124	
Safari	26	

Internet Explorer	NOT SUPPORTED	Internet Explorer is not supported. If you are embedding the jtel web application in a locally installed fat client, please make sure it does not use an internet explorer based component for displaying the jtel web application as we do not provide support for this use case.

Unsuitable clients

The following are unsuitable:

- Clients or client applications that use Internet Explorer
- Thin clients that do not provide sufficient CPU power or offer too little RAM
- Terminal server clients which do not provide enough RAM and / or CPU on the host to support the jtel web application running in a browser or the Mini Client .EXE Application, in addition to other requirements of the logged in users
- Clients that have an operating system for which there is no longer manufacturer support (e.g. Windows XP)

Network Bandwidth

Tests

To determine the required network bandwidth, we measured various test scenarios, both realistic and unrealistic.

The following bandwidth measurements were all performed using http compression on the load balancer (default setting). This results in a reduction in network load of up to 80%, however it increases load on the client.

The measurements were taken over a period of 5 minutes to determine the average bandwidth per second.

Please note that the "stress test benchmarks" correspond more to abnormal user behaviour. For typical use, the values from the normal tests should be sufficient to calculate the bandwidth.

There is hardly any difference in the required bandwidth between the client and mini-client.

Scenario	Details	Required Bandwidth Downstream (to Client)	Required Bandwidth Upstream (to jtel Servers)
Agent Client High Load Benchmark Mini Client or Full Client	This test corresponds to unrealistic user behaviour/call volume. Approximately three repetitions per minute of the following sequence • Incoming call • Switch from the "Call processing – Agents" tab to the "Call processing – Call number" tab • Forwarding to a number with handover • Mandatory entry of a transaction code ◦ Deactivation of post-processing time • Switch from the "Call Processing - Call Number" tab to the "Call Processing - Agents" tab	39 Kilobit per Second	29 Kilobit per Second

Agent Client Normal Load Benchmark Mini Client or Full Client	This test corresponds to the realistic behaviour of a user with a very high call volume (for example an operator / switchboard). Approximately two repetitions per minute of the following sequence • Incoming call • Switch from the ‘Call processing – Agents’ tab to the ‘Call processing – Call number’ tab • Forwarding to a call number with handover • Forced entry of a transaction code • Deactivation of post-processing time • Switch from the ‘Call Processing - Call Number’ tab to the ‘Call Processing - Agents’ tab	20 Kilobit per Second	15 Kilobit per Second
Supervisor High Load Benchmark	This scenario corresponds to abnormal user behaviour. • 10 ACD groups and 30 logged-in agents • Wallboard total with 10 different values • Wallboard per group with 5 graphics and 20 additional values • Switch between "Inbound Status", "Wallboard" and "All Agents" every 10 seconds	35 Kilobit per Second	9 Kilobit per Second
Supervisor Normal Load Benchmark	This scenario corresponds more closely to normal user behaviour. • 10 ACD groups and 30 logged-in agents • Wallboard total with 10 different values • Wallboard per group with 5 graphics and 20 additional values • Switch between "Inbound Status", "Wallboard" and "All Agents" every 30 seconds	17 Kilobit per Second	5 Kilobit per Second
Wallboard Benchmark	In this test, the wallboard is measured during the supervisor normal load benchmark.	4 Kilobit per Second	4 Kilobit per Second

When calculating the required bandwidth, simply multiply by the number of agents / supervisors / wallboards in your system.

Notes

The required bandwidth varies depending on the exact functions used on the client. For example, if an agent frequently switches to lists in the web interface that contain many entries, more bandwidth will be used.

We recommend that you size the bandwidth to the server in such a way that there is sufficient excess capacity in case features requiring more bandwidth are used in the future.

When calculating bandwidth, please also note that bandwidth is also generated where the web browser or client application is running. This is particularly important if the web browser is running in a terminal session, for example on Citrix clients or remote desktops - where a lot of parallel sessions for users / agents may require additional bandwidth to function correctly.