



# Bandwidth and Performance Recommendations

This chapter qualifies the performance levels that you can expect from a single Unified Intelligence Center node with respect to bandwidth requirements and user-level responsiveness from the reporting application. The assumption is that Unified Intelligence Center users are working from a standard desktop system with sufficient memory and disk space as recommended by the operating system vendor.

- [Sizing parameters, page 1](#)
- [Measured Bandwidth, page 2](#)
- [Bandwidth Requirement, page 2](#)
- [Disk Bandwidth Requirements in Virtual Environments, page 2](#)

## Sizing parameters

The following parameters combined have an effect on the responsiveness and performance of the Unified Intelligence Center desktop. Descriptions of these items are as follows:

- **Realtime reports:** Simultaneous realtime reports run by a single user.
- **Refresh rate/realtime:** Note that you can change the refresh rate if you have a Premium license by editing the Report Definition. The default refresh rate was changed in Unified Intelligence Center Release 8.5(3) is 15 seconds.
- **#Cells per report:** The number of columns that are retrieved and displayed in a report.
- **#Historical report:** Number of historical reports run by a single user/hour.
- **Refresh rate/Historical:** The frequency that report data are refreshed on a historical report. Note that this can be changed if you have a Premium license by editing the report definition and this value can be set per report. The default is 15 minutes.
- **#Rows/report:** Total number of rows on a single report.
- **Charts/dashboard:** Number of charts (pie, bar, line) in use concurrently on a single dashboard.
- **Gauges/dashboard:** Number of gauges (speedometer) in use concurrently on a single dashboard.

**Note**

You can use the [Sizing Calculator](#) to find out the approximate number of reporting servers and source databases needed for your Unified Intelligence Center implementation. However, there are factors beyond the scope of the sizing calculator that may have an impact on the performance; for example, the complexity of the report, responsiveness of the source database, and so on. Use the sizing calculator as a starting point, but note that you may have to make certain adjustments if the performance is not as per the expectations.

## Measured Bandwidth

Unified Intelligence Center bandwidth calculations were performed on a local area network with a local AWDB database and client machine running the reports. The bandwidth figures are derived from observations on the network statistics of the Unified Intelligence Center node and the AWDB HDS box serving the report data. Load figures from the test setup are as follows:

Two hundred Unified Intelligence Center users, each running:

- Four realtime reports with 100 rows per report, with 10 fields each, refreshed every 15 seconds
- Two historical reports with 2000 rows, with 10 fields each, refreshed every 30 minutes

## Bandwidth Requirement

The observed bandwidth for this test setup was 12657 kbps overall, and the individual network segment bandwidths are:

- Unified Intelligence Center <--> AWDB bandwidth = 2,661 kbps
- Unified Intelligence Center <--> Browser based Reporting Client bandwidth = 9,996 kbps

The exact bandwidth requirement differs based on the sizing parameters used, such as the number of rows, the refresh frequency, and the number of columns present in each report.

You can use the [Bandwidth Calculator](#) to calculate the bandwidth requirements for your Unified Intelligence Center implementation.

## Disk Bandwidth Requirements in Virtual Environments

When Unified Intelligence Center is run in a virtual machine on C-series servers, in addition to the CPU and memory reservations, provision the I/O subsystem for 25 KB/s, with the expectation that Unified Intelligence Center at full load consumes on average 10 KB/s of this bandwidth. Peak I/O throughput requirement reaches 25 KB/s.