2Ring Dashboards & Wallboards Sizing Guide for Contact Centers

(Product Version 9.2)

2Ring .. AMERICAS

ADDRESS	2Ring America, Inc. 3626 Fair Oaks Blvd. Suite 100 Sacramento, CA 95864, USA
SUPPORT	(916)-529-4197
EMAIL	support@2Ring.com
WEB	www.2Ring.com

2Ring .. EMEAR

ADDRESS	2 Ring, spol. s r. o. Plynárenská 5 821 09 Bratislava 2 Slovak Republic
SUPPORT	+421-2-5822 4097
EMAIL	support@2Ring.com
WEB	www.2Ring.com

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Chapter 1
Introduction

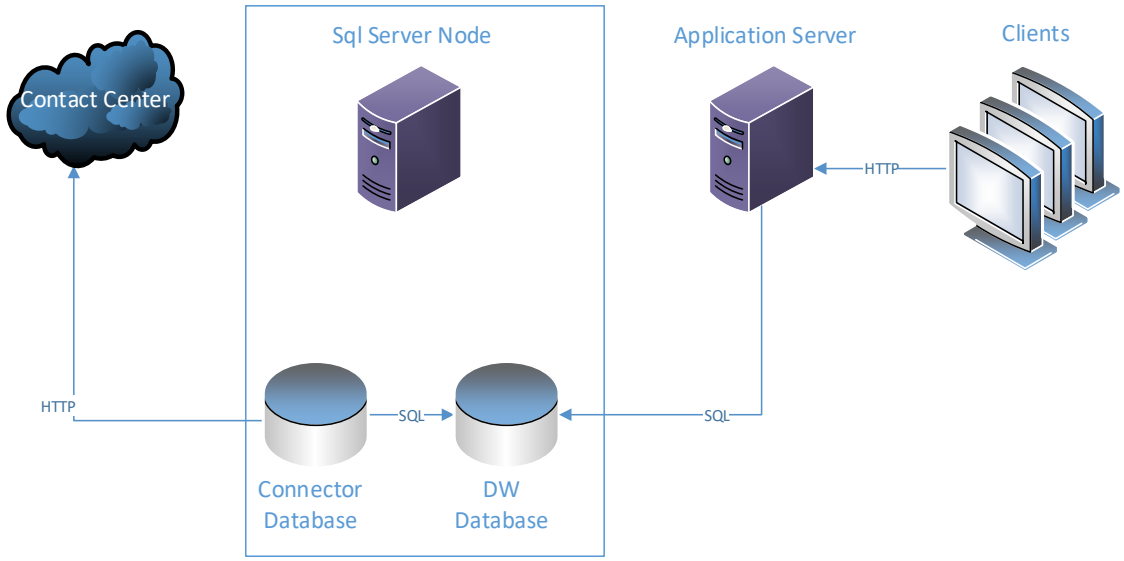
This document serves as an administrative sizing guide for determining the hardware requirements to deploy and operate the 2Ring Dashboards & Wallboards solution in a contact center environment.

ATTENTION! For those not utilizing our professional services for installation, please refer to the DW deployment guide for the installation process after preparing your environment according to the specifications below.

Chapter 2
Key Concepts

2Ring DW is a versatile solution for real time data display from various sources. 2Ring provides a set of ready built connectors for contact center platforms.

Depending on the scale of the Contact Center and business requirements, certain hardware is needed at the Database and Application level. Below is a high-level diagram of the 2Ring DW solution.



Chapter 3
Hardware/Software Requirements

Depending on the business requirements of a contact center, hardware requirements differ.

3.1. Client Workstation

2Ring DW Client can be displayed on the following internet browsers (Last tested version):

- Desktop
  - Windows 10 and 11
    - Microsoft Edge: v115.0
    - Mozilla Firefox v115.0
    - Google Chrome v115.0
  - MacOS
    - Safari v16.6
    - Google Chrome v115.0
- Mobile/Tablet
  - Android
    - Google Chrome v115.0
  - iOS
    - Safari v16.6
    - Google Chrome v115.0

Notice: On iOS using a browser in incognito mode (private browsing) is not supported.

- Smart TV
  - Tizen 5 operating system and above versions
  - webOS TV 5.x and above versions

ATTENTION! The TV Sets vary in browsers used. It is recommended to test a specific model before buying. To determine whether the smart TV browser is compatible with the Client, use the following test link to see whether the wallboard is displayed: www.2Ring.com/TryIt. Issues may occur with some TV sets with an invalid SSLcertificate. These issues may result in a missing icon, bad icons and fonts or inability to automatically reconnect after losing connectivity.

3.2. Windows OS and SQL Server Support

In order to choose the most suitable hardware for 2Ring Dashboards and Wallboards, compare the business requirements of the contact center to the scenarios below. The required hardware increases in performance with number of calls processed per day in the contact center and active calculations. To determine call volume per day, CUIC reports can be used. Refer UCCE or UCCX guides for more info.

Notice: All criteria must be met for a scenario (active calculations and processed calls) in order to use the required hardware. Move to the next scenario if all criteria are not met. Please see *Chapter 5 – Wallboard Concepts* for more information on active calcuations.

Operation System Requirement

DW Application Server supports only the following Windows Server versions:

- Windows Server 2016
- Windows Server 2019
- Windows Server 2022 (recommended)
- Windows Server 2025 (recommended)

SQL Server Requirement

DW Application Server supports only the following SQL Server versions (Express Edition or above):

- SQL Server 2016
- SQL Server 2017
- SQL Server 2019
- SQL Server 2022 (recommended)

ATTENTION! SQL Server edition is determined based on the scenario selected.

3.3. SSL Certificates

Use of SSL security for 2Ring web application is required in the default installation process. However, if running in an unsecure http mode is required, there are potential risks. In this mode all data going to and from the application, including but not limited to passwords, will transmit across the network in an unencrypted form. This could lead to potential security breaches if this traffic is captured, and we highly recommend not using passwords for the 2ring system that are in use for any other applications in the environment.

3.4. Load Balancer

All multi-datacenter deployment models require a load balancer for web servers on the application servers. If your organization does not have a load balancer, please discuss with 2Ring deployment engineer for possible options.

Load balancer setup:

- Sticky sessions enabled
- Load distribution – route traffic to same DC as request origin unless it is down.
- SSL certificate on load balancer
- Health check – make https request to individual application server on port binded to IIS, typically port: 443. 2Ring engineer will provide URL.

Chapter 4
Sizing

4.1. Scenario 1

DW Active Calculations	< 50
Processed Calls	< 2 000

Requirement:

	Non HA[1]	Non HA[2]	HA App Server Only[3]	HA App and SQL Server[4]
Number of Servers	1	2	3	4
CPU[5]	4x Cores	4x Cores	4x Cores	4x Cores
Memory	10GB	6GB	6GB	6GB
HDD[6]	120GB[8]	App Server 120 GB SQL Server 100GB[8]	App Servers 120 GB SQL Server 100GB[8]	App Servers 120 GB SQL Servers 100GB[8]
SQL Server Edition	Express[7] STD/ENT[9]	Express[7] STD/ENT[9]	Express[7] STD/ENT[9]	STD/ENT[9]

[1]SQL server is on application server. HDD includes recommended OS Requirements and SQL Requirements.

[2]One application server and one dedicated SQL server. HDD includes recommended OS requirements for both servers and SQL requirements for SQL server.

[3]Two application servers and one dedicated SQL server. HDD includes recommended OS requirements for all servers (App and SQL hosts) and SQL requirements for SQL server.

[4]Two application servers and two SQL servers in failover cluster. HDD includes recommended OS requirements for all servers and SQL requirements for all SQL servers.

[5]CPU Clock speed should be at least 2GHZ.

[6]It is highly recommended to use a solid-state disk (SSD) for 2Ring servers.

[7]Server hosting SQL server express must have one CPU socket with four cores for maximum performance. See Microsoft documentation for more details.

[8](Optional) For SQL Server setup with split drive space, allocate 30GB for OS, 30% of remaining space for data files, and 70% of remaining space for log files.

[9]SQL Server Standard with failover cluster using shared disk or Enterprise with availability groups.

4.2. Scenario 2

DW Active Calculations	< 100
Processed Calls	< 5 000

Requirement:

	Non HA[1]	Non HA[2]	HA App Server Only[3]	HA App and SQL Server[4]
Number of Servers	1	2	3	4
CPU[5]	4x Cores	4x Cores	4x Cores	4x Cores
Memory	10GB	8GB	8GB	8GB
HDD[6]	120GB[8]	App Server 120 GB SQL Server 110GB[8]	App Servers 120 GB SQL Server 110GB[8]	App Servers 120 GB SQL Servers 110GB[8]
SQL Server Edition	Express[7] STD/ENT[9]	Express[7] STD/ENT[9]	Express[7] STD/ENT[9]	STD/ENT[9]

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[7]Server hosting SQL server express must have one CPU socket with four cores for maximum performance. See Microsoft documentation for more details.

[8](Optional) For SQL Server setup with split drive space, allocate 30GB for OS, 30% of remaining space for data files, and 70% of remaining space for log files.

[9]SQL Server Standard with failover cluster using shared disk or Enterprise with availability groups.

4.3. Scenario 3

DW Active Calculations	< 200
Processed Calls	< 15 000

Requirement:

	Non HA[1]	HA App Server Only[2]	HA App and SQL Server[3]
Number of Servers	2	3	4
CPU[4]	6x Cores	6x Cores	6x Cores
Memory	App Server 8GB SQL Server 10GB	App Server 6GB SQL Server 10GB	App Server 6GB SQL Server 10GB
HDD[5]	App Server 120 GB SQL Server 130GB[6]	App Servers 120 GB SQL Server 130GB[6]	App Servers 120 GB SQL Servers 130GB[6]
SQL Server Edition	Express[7] STD/ENT[8]	Express[7] STD/ENT[8]	STD/ENT[8]

[1]One application server and one dedicated SQL server. HDD includes recommended OS requirements for both servers and SQL requirements for SQL server.

[2]Two application servers and one dedicated SQL server. HDD includes recommended OS requirements for all servers (App and SQL hosts) and SQL requirements for SQL server.

[3]Two application servers and two SQL servers in failover cluster. HDD includes recommended OS requirements for all servers and SQL requirements for all SQL servers.

[4]CPU Clock speed should be at least 2GHZ.

[5]It is highly recommended to use a solid-state disk (SSD) for 2Ring servers.

[6](Optional) For SQL Server setup with split drive space, allocate 30GB for OS, 30% of remaining space for data files, and 70% of remaining space for log files.

[7]Server hosting SQL server express must have one CPU socket with four cores for maximum performance. See Microsoft documentation for more details.

[8]SQL Server Standard with failover cluster using shared disk or Enterprise with availability groups.

4.4. Scenario 4

DW Active Calculations	> 200
Processed Calls	> 15 000

Requirement:

	Non HA[1]	HA App Server Only[2]	HA App and SQL Server[3]
Number of Servers	2	3	4
CPU[4]	8x Cores	8x Cores	8x Cores
Memory	App Server 8GB SQL Server 12GB	App Server 6GB SQL Server 12GB	App Server 6GB SQL Server 12GB
HDD[5]	App Server 120 GB SQL Server 150GB[6]	App Servers 120 GB SQL Server 150GB[6]	App Servers 120 GB SQL Servers 150GB[6]
SQL Server Edition	Express[7] STD/ENT[8]	Express[7] STD/ENT[8]	STD/ENT[8]

[1]One application server and one dedicated SQL server. HDD includes recommended OS requirements for both servers and SQL requirements for SQL server.

[2]Two application servers and one dedicated SQL server. HDD includes recommended OS requirements for all servers (App and SQL hosts) and SQL requirements for SQL server.

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[7]Server hosting SQL server express must have one CPU socket with four cores for maximum performance. See Microsoft documentation for more details.

[8]SQL Server Standard with failover cluster using shared disk or Enterprise with availability groups.

Chapter 5
Wallboard Concepts

5.1. Terminology

5.1.1. Active Clients

An active client is each instance of one of the following:

- A dedicated display such as a plasma or an LCD screen permanently displaying data.
- A DW client running on a supervisor or agent PC.
- A layout embedded in an agent desktop application such as Cisco Finesse.

5.1.2. Active KPI/Grid Calculations

It is usually needed to perform a calculation using the same method (KPI/Grid calculation type - a calculation type is a named method of calculating a KPI value or Grid.) but with specific parameters. Such as to calculate a Service Level for a specific queue. The name of the specific queue is a parameter. Multiple KPI Calculations can be setup to use the same KPI Calculation Type but with different parameters.

For example, to calculate Service Levels for two queues in a contact center, two KPI Calculations would be created using the same Calculation Type (Service Level). First KPI Calculation would pass the name of Queue1 as a parameter, while the other one would pass the name of Queue2 as a parameter. The name of the KPI Calculations can be changed so that their name reflects the calculated value.

Service Level Queue 1

Service Level Queue 2

The principal is the same for Grids. Setup multiple Grid Calculations to use the same Grid Calculation Type but with different parameters.

5.1.3. Processed Calls

The number of calls processed by a contact center greatly impacts hardware requirements for the SQL Server Node. A processed call is each call hitting the contact center both incoming and outgoing. IVR calls are also considered to be a processed call.