

# Fitnessgram 9 System Requirements: State

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Fitnessgram 9 is intended to scale up to serving an entire state's needs without requiring any software to be installed in individual schools. It does this by making all Fitnessgram functions available using an Internet browser, accessing state-owned Web servers that run the Fitnessgram 9 software. These servers distribute the load from the users, typically by serving a specific geographical region of the state.

In addition to these regional servers that most users interact with, a state-level server may be implemented to consolidate certain data for all schools in the state, typically used for state-level reporting purposes.

This document is intended to be used as a guide for estimating the server hardware that will be required by a state that plans to implement Fitnessgram 9.

## Server Types and Requirements

Two types of servers are needed by the Fitnessgram 9 system: Web servers and SQL (database) servers. The minimum specifications for these servers are described in this section; the estimated quantity of servers that will be required is covered in the next section.

- Windows Server 2003 or 2008 32bit and 64bit
- Quad Core Xeon or Higher processor, minimum 2.5 GHz
- 4GB of memory
- At least 30GB of disk space required
  - 50KB of disk space required per student per school year for regional server
  - 10KB of disk space required per student per school year for state-level server

## Prerequisites

- Microsoft Internet Information Services (IIS6 for Windows Server 2003 and IIS7 for Windows Server 2008) installed
- Microsoft .Net 2.0 SP1 installed

## Quantity of Servers Required

At least one Web server and one SQL server are needed for state-level servers.

For regional servers, one Web server should be able to support approximately 20,000 concurrent users (doing a mix of different functions with an average of two page views per minute). For example, if a region has 100,000 students who use Fitnessgram, and at the most 30% of them might be using the system at the same time of the day, then the peak load of 30,000 users (100,000 x 30%) would be supported by two Web servers.

One regional SQL server will be needed for approximately every 160,000 concurrent users. If more than this number of concurrent users is expected in a region, then higher-performance hardware could be considered in order to support these users, or some districts within the region will need to be split off into another region (the data for each individual student will only be held by one regional server). For example, if 200,000 concurrent users

need to be supported in a region, a more powerful SQL server will need to be implemented or the region will need to be split into two sections with approximately the same number of concurrent users in each.

**\*Note:** The percentage of concurrently active users plays a large role in estimating the number of servers that will be required. This is especially the case in states that desire direct student access to the system. A state can influence (reduce) this number in the following ways:

- Staggering the calendar of when Fitnessgram data entry is done by students in different schools or districts within a region (instead of having all Fitnessgram testing and data entry done during the same week throughout the region)
- Making computer labs and time available during the school day for some of the access (instead of requiring all students to access the system during the smaller window of just after-school hours)