



# 3M™ Coding and Reimbursement System

## HARDWARE AND SOFTWARE REQUIREMENTS

This document applies to all versions and platforms of the 3M Coding and Reimbursement System, including 3M™ Coding and Reimbursement System Plus, 3M™ Codefinder™ Software, 3M™ Coding Reference Software, 3M™ Coding Reference Plus Software, and 3M™ Physician Coding and Reimbursement System

### Minimum requirements for application servers

#### Web CRS

A typical installation consists of CRS being installed on a Web server (Web CRS). In this instance, processing is done on the server. The number of planned concurrent coders should be multiplied by 1.5 for sizing and configuration purposes, up to a maximum of 675 on a single server. Using this configuration, you must provide:

- Memory—A minimum of 16GB of RAM for the operating system, plus 2GB for every 40 concurrent users
- CPU Cores—A minimum of two CPU cores with a base clock of 2+ GHz each, plus one additional core for every 40 concurrent users
- Disk space—20GB for coding system install

#### Windows CRS (USA only)

Customers in the United States also have the option to install CRS without a Web server (Windows CRS). In this configuration, processing is done on the client machine, so there are no additional memory or CPU requirements for the server. The maximum number of clients per application server is 35.

- Disk space—20GB for coding system install

Operating System	<p>Server Core (configured without the GUI) is not currently supported.</p> <ul style="list-style-type: none"> <li>• Windows Server 2019 (highly recommended); Standard, Datacenter</li> <li>• Windows Server 2016 Standard, Datacenter</li> <li>• Windows Server® 2012 and Windows Server® 2012 R2; Foundation, Essentials, Standard, Datacenter</li> <li>• Transport Layer Security (TLS) 1.2 enabled</li> </ul> <p>(See Answer 1000392 on the Client Support Website)</p>
Web browsers	<ul style="list-style-type: none"> <li>• Google Chrome—Most recent (latest) generally available version and one prior version</li> <li>• Microsoft Edge (Chromium-based versions)</li> </ul> <p>With the February 2022 Feature release, 22.2.10.0, 3M will maintain support for the most recent (latest) version and one version prior of the Microsoft Stable release channel.</p> <p><b>Important note:</b> The original Microsoft Version of Edge (nonChromium based) is not, and will not, be supported.</p>
Microsoft .NET	4.8 or newer is required (3M recommends the latest .NET version)
Display	3M recommends a 1280 x 1024 resolution monitor or higher. The minimum supported resolution is a 1024 x 768 resolution with a 19-inch-wide screen monitor
Internet connection	1.5Mbps (T1 line) or greater
Network interface card and Internet access	<p>Required for the following:</p> <ul style="list-style-type: none"> <li>• Downloading product and product updates</li> <li>• Accessing certain references (such as the Merck® Manual) in the coding reference software</li> <li>• Viewing and downloading product documentation</li> </ul>

## Minimum requirements for application servers

	<ul style="list-style-type: none"> <li>• Accessing support information</li> <li>• Receiving remote access support from 3M HIS Support website</li> <li>• Accessing and viewing medical necessity edits</li> <li>• Accessing and viewing local and national medical necessity policies on CMS and local FI/carrier websites</li> <li>• Editing content for ICD-10</li> </ul>
Mouse	Microsoft-compatible
Printer	Compatible with your operating system and connection type
Other considerations	<ul style="list-style-type: none"> <li>• Functions and specifications are subject to change without notice.</li> <li>• To ensure you have the latest recommendations check with your 3M account representative before you order hardware.</li> <li>• You are expected to keep the operating system and any additional software up to date by loading available updates.</li> <li>• 3M also recommends a power protection device, such as a UPS, that provides 15 minutes of backup power.</li> </ul>
Additional notes	<ul style="list-style-type: none"> <li>• Server requirements are over and above the requirements of any additional software running on the server (e.g., Antivirus).</li> <li>• 3M highly recommends a dedicated application server for CRS+.</li> <li>• If the application server does not meet the above minimum requirements, the performance of CRS+ will be affected, especially for remote coding staff.</li> <li>• 3M strongly recommends you use a physical server matching these specifications. However, if you do use a virtual server, be sure that the VM host is not overloaded; an overloaded VM host can cause sporadic reliability and poor performance issues.</li> </ul>

## Minimum requirements for client workstations/Citrix machines

You can install CRS in one of the three following ways:

### 1. Clients for Web CRS (i.e., WinAppLink) with Apache

- Memory— A minimum of: 16GB for the operating system; 1GB for client applications; 2GB for every 40 concurrent users
- CPU Cores—A minimum of two CPU cores with a base clock of 2+ GHz each
- Disk space—150MB per “user instance” folder (WinAppLink vs. WinAppLink shared)

### 2. Clients for Windows CRS (USA only)

- Memory— A minimum of 16GB for the operating system, plus 2GB for every 40 concurrent users
- CPU Cores—A minimum of two CPU cores with a base clock of 2+ GHz each, plus one additional core for every four users  
3M recommends no more than 35 concurrent users per server.
- Disk space—150MB per user

### 3. Full standalone installation for Windows

- Memory—A minimum of 16GB of RAM for the operating system, plus 2GB for the CRS application
- CPU Cores—A minimum of two CPU cores with a base clock of 2+ GHz each
- Disk space—20GB for coding system install

Operating System	Windows 10 is recommended (64-bit only); home editions are not supported.
Web browsers	<ul style="list-style-type: none"> <li>• Google Chrome—Most recent (latest) generally available version and one prior version</li> <li>• Microsoft Edge (Chromium-based versions) With the February 2022 Feature release, 22.2.10.0, 3M will maintain support for the most recent (latest) version and one version prior of the Microsoft Stable release channel.</li> </ul> <p><b>Important note:</b> The original Microsoft Version of Edge (non-Chromium based), is not, and will not be supported.</p>
Microsoft .NET	4.8 or newer is required for the WinAppLink MSI installer (3M recommends the latest .NET version)

## Minimum requirements for client workstations/Citrix machines

Citrix/Terminal Services/VDI	<p>When used, any maintained version of Citrix XenApp running on any server operating system listed under “Minimum requirements for application servers.”</p> <p>Due to the large variation in deployments, 3M cannot assist with configuration of Citrix servers or Citrix deployments. Consult your internal Citrix resources for deployment and support planning. You should also thoroughly test and confirm workflow functions prior to deployment of each 3M solution or solution update.</p> <p>In the event of any support concern, 3M reserves the right to troubleshoot the problem on a workstation that meets the requirements for the specific solution. When a defect is corrected, 3M will consult with your Citrix resource on application requirements only; your Citrix team is responsible to make these changes within your Citrix (or VDI) deployment.</p>
Display	3M recommends a 1280 x 1024 resolution monitor or higher. The minimum supported resolution is a 1024 x 768 resolution with a 19-inch-wide screen monitor
Internet connection	1.5Mbps (T1 line) or greater
Network interface card and Internet access	<p>Required for the following:</p> <ul style="list-style-type: none"> <li>• Downloading product and product updates</li> <li>• Accessing certain references (such as the Merck® Manual) in the coding reference software</li> <li>• Viewing and downloading product documentation</li> <li>• Accessing support information</li> <li>• Receiving remote access support from 3M HIS Support website</li> <li>• Accessing and viewing medical necessity edits</li> <li>• Accessing and viewing local and national medical necessity policies on CMS and local FI/carrier websites</li> <li>• Editing content for ICD-10</li> </ul>
Mouse	Microsoft-compatible
Printer	Compatible with your operating system and connection type
Other considerations	<ul style="list-style-type: none"> <li>• Functions and specifications are subject to change without notice.</li> <li>• To ensure you have the latest recommendations check with your 3M account representative before you order hardware.</li> <li>• You are expected to keep the operating system and any additional software up to date by loading available updates.</li> <li>• 3M recommends a power protection device, such as a UPS, that provides 15 minutes of backup power.</li> </ul>