



Tech Installation Guide



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Welcome to Edgenuity

The Edgenuity program was designed for ease of deployment, maintenance, and functionality within a typical educational technology environment. The system runs predominantly on a hosted platform housed in a secure co-location site in Scottsdale, Arizona. Student information, courseware, and course progress is stored at this site; nothing resides on your network. Our customers can feel assured student data is safe and secure with absolutely no work required by school district personnel.

We have taken great care in engineering a robust system with redundancy built in at every level. Both onsite and offsite real-time backup systems incorporate tape archival. As students and teachers log into our program, they access servers in Scottsdale. These sessions use less network bandwidth than logging into a site like msn.com. School lab environments will require little Internet bandwidth to function.

The core of the Edgenuity system consists of short video lectures. To maximize program performance and minimize network impact, the Edgenuity system incorporates the use of media appliances.

These appliances are self-contained, read-only devices pre-loaded with the Edgenuity video content library. Edgenuity appliances utilize custom programming requiring no backups or user maintenance.

Edgenuity media appliances are built on the custom server platform, adding faster performance and greater reliability to our product. Edgenuity appliances come with a three-year warranty and service contract. Media appliances are configured for your district with an internal static IP address, subnet mask, DNS server IP address, and hostname. An internal static IP address can be used unless you will service students from outside your network (i.e., home).

Edgenuity incorporates redundancy into the media delivery system. If a local media appliance is not available to the user, the program automatically rolls the request to another media appliance on your network. If no other appliances are available on your network the user request is sent to the media server cluster and the media is delivered via the Internet. This redundancy helps with the availability of the program to your students. The program requires a minimal set of software and plug-ins, all of which are readily available and free to download. Pre-installment of all required software on your workstations ensures students receive the best experience with this software.

Upon receipt of your media appliance a connection to power and network switch are required for use. A detailed warranty statement is included with the media appliance. Your Edgenuity sales representative will work to ensure you have the proper media appliances for your specific needs. Please contact Edgenuity if changes occur within your network for the unit(s) static IP or if additional assistance is needed.

System Requirements for User Workstations

Schools and districts utilizing the Edgenuity system will need to ensure workstations meet the minimum system requirements below.

Edgenuity Minimum System Requirements	
Operating System	<ul style="list-style-type: none">• Windows 7®• Windows Vista®• Windows XP® (Home / Pro)• Mac OS® X 10.6.2+
Processor	<ul style="list-style-type: none">• PC: 2.33GHz AMD® -or- Intel® Core™ Duo 1.83 GHz• Mac®: Intel Core Duo 1.33 GHz
Memory	<ul style="list-style-type: none">• 1024 MB RAM
Hard Disk Space	<ul style="list-style-type: none">• 500 MB available disk space for browser cache
Display	<ul style="list-style-type: none">• 1024 x 768 resolution• 16-bit color• 128 MB graphics card (for use with Mac computers)
Sound	<ul style="list-style-type: none">• OS supported sound card• Speakers or headsets (recommended)*
Network / Connection Speed	<ul style="list-style-type: none">• LAN 10/100 switched to desktop• Internet access 256 kbps** per concurrent user
Browser	<ul style="list-style-type: none">• Google™ Chrome™ 26• Internet Explorer® 8.x***• Safari® 5.0 (Requires 10.6.2+)• Firefox® 21.0
Plug-Ins	<ul style="list-style-type: none">• Adobe® Flash® Player 10• Adobe Acrobat® Reader® 8• Adobe Shockwave® Player 10• QuickTime® Player 7• Java® Virtual Machine 1.7
<p>*All instructional computer stations will need to have sufficient network-user permissions to ensure full functionality when using certain plug-in applications. Students will need access to audio capabilities including speakers and/or headsets.</p> <p>**A slow Internet connection will affect the performance of multimedia elements found in the Edgenuity courses.</p> <p>***Internet Explorer 7 and IE7 compatibility mode is not supported when using Edgenuity.</p>	

Edgenuity Media Appliance Overview

To minimize bandwidth requirements, an Edgenuity media appliance is placed at the district or individual school. A student computer will then access the Virtual Classroom via the Internet with information transfer requirements equivalent to standard web page downloads. Direct Instruction Lecture Videos, when required as part of the user experience, are pulled from the local media appliance, ensuring reduced load times and no additional bandwidth requirements to the Internet. Through this proven implementation method, districts ensure minimal bandwidth requirements on the school infrastructure. With a media appliance housed within the district firewall, a bandwidth of less than or equal to 256 kbps on average per concurrent user provides a positive end user experience with minimal delay for page downloads. Technical specifications and concurrent user license counts for Edgenuity appliances are detailed in the proceeding pages for your reference.

Edgenuity Media Appliances

Edgenuity media appliances have been designed with a Mini Tower appliance, and two tiers of bonded* appliances, and virtual media appliances, each rated for concurrent connections. Appliances are self-contained, read-only devices preloaded with the Edgenuity video content library. Edgenuity appliances utilize custom programming requiring no backups or user maintenance.

Please Note: Videos within Advanced Placement® and World Language courses are not included with video content available within an Edgenuity media appliance. Courses include the following:

Advanced Placement Courses

- French Language & Culture
- Spanish Language & Culture

World Language Courses

- Chinese
- French
- German
- Latin
- Spanish

Physical Media Appliances

Mini Tower – E70T:		Tower only, non-bonded single power supply 1 – 70 concurrent users
Tier I Tower – E550T:		Tower only, bonded single power supply 1 – 550 concurrent users
Tier I Rack – E550R:		1U Rack, bonded dual power supply 1 – 550 concurrent users
Tier II Rack – E3750R:		2U Rack, bonded dual power supply 551 – 3,750 concurrent users

Virtual Media Appliance

Edgenuity VMA		VMware 4.0+, Citrix XenServer 4.0+, or Microsoft Hyper-V 1.0 support. 1 – 3,750 concurrent users (resource dependent)
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Note: Edgenuity Virtual Media Appliance Images are built on Tier I media appliance specifications and resource requirements.

Edgenuity Media Distribution System

The Edgenuity Media Distribution System (MDS) allows us to keep the media appliances up-to-date while providing a seamless end user experience. It is designed to be behind-the-scenes and should not impact overall network performance.

The system has 4 essential pieces.

1. Content Updates
2. Monitoring Solution
3. Operating System updates
4. Software updates

Content Updates

The primary purpose of MDS is to ensure appliances have the latest content. Content updates utilize port 22 to the hostname 'mdc.edgenuity.com' and 'mdu.edgenuity.com'. Content updates run on a nightly schedule for the client's local time starting at 7PM and automatically shutting off at 6AM. We have gone to great lengths to ensure the most content can be updated using as little bandwidth as possible. Content updates are designed to be throttled to no more than 15% of the available client connection as they are bandwidth heavy updates. Each file can range in size from 2 Megabytes to several hundred Megabytes and each update can range from a handful of files to several courses worth (300-1000 files) of updates. MDS utilizes smart indexing to ensure files within the update are only downloaded once. This update process utilizes file delta to only apply the changes to each media file. File delta is especially important when a file is only modified rather than replaced.

MDS Monitoring Solution

The monitoring solution is a hardware and software level monitor that allows for smarter updating as well as failure alerts. This monitor utilizes ports 80 and 443 to relay encrypted TCP packets containing the monitoring data to the hostname 'mdm.edgenuity.com' and 'mdu.edgenuity.com'. This gives us the ability to do smart updates while targeting and replacing high risk appliances before issues may begin. The monitor allows us perform similar identification with software by monitoring the apache web server that serves out files to students and allows us to pinpoint any potential performance or configuration modifications that need to be made.

Operating System Updates

Operating System updates are checked nightly via ports 80 and 443 to hostnames 'mdc.edgenuity.com' and 'mds.edgenuity.com'. This hostname is our primary update cluster. Updates range in size from a Kilobyte to several hundred Megabytes. This solution is designed to be low bandwidth and maintain persistent operating system versioning across all media appliance variants. Even when larger updates are needed they rarely take longer than a few minutes to download and install.

Software Updates

Software updates verify the branding and back-end of the MDS software. Updates will only apply after the complete patch has been downloaded and scanned for corruption. Checked nightly via ports 80 and 443 to hostnames 'mdc.edgenuity.com' and 'mds.edgenuity.com', updates typically consist of a few Kilobytes, completing very quickly. Software updates are applied with a keep-alive download and patching system allowing for downloads to resume if a connection is dropped and is then re-established.

Edgenuity Physical Appliance Specifications

Edgenuity media appliances have been designed with a Mini Tower appliance and two tiers of bonded* appliances, each rated for concurrent connections.

Non-Bonded Mini Tower Appliances

The Edgenuity Mini Tower is designed for use in small or lower usage implementations of the Edgenuity system. The unit is designed to be placed at or near the network backbone and is optimized for read access to support up to 70 concurrent connections to the Edgenuity program. The Edgenuity Mini Tower is perfect for remote locations and new trials. Mini Tower units weigh approximately 28 pounds each.

Mini Tower – E70T

1 - 70 Concurrent Users

Intel® Pentium® G870 3.1 GHz dual core processor
2GB DDR3 1600MHZ RAM
1TB SATA 7200 internal drive (No RAID)
Preloaded with Edgenuity media
Single 1Gb NIC
Tower – single power supply

Bonded Tier I and II Media Appliances

The Edgenuity Tier I–II media appliances are designed for use in larger implementations of the Edgenuity system. The units are designed to be placed at or near the network backbone and optimized for read access. Depending upon the tier being used by a school or district, the appliances can support up to 3,750 concurrent connections to the Edgenuity program. The configurations below are available in both ATX Mid Tower and Rack mount configurations featuring custom Edgenuity equipment. Units weigh approximately 40-87 pounds each.

Tier I Tower-E550T

1 - 550 Concurrent Users

Intel Xeon® E5-2407 2.2GHZ quad core processor
2GB DDR3 1333MHZ ECC RAM
1TB SATA 7200 internal drive (No RAID)
Preloaded with Edgenuity media
Dual 1Gb NIC
Tower – single power supply

Tier I Rack-E550R

1 - 550 Concurrent Users

Intel Xeon E5-2407 2.2GHZ quad core processor
2GB DDR3 1333MHZ ECC RAM
1TB SATA 7200 internal drive (No RAID)
Preloaded with Edgenuity media
Dual 1Gb NIC
1U rack – dual power supply

Tier II Rack-E3750R

551 – 3,750 Concurrent Users

Intel Xeon E5-2440 2.4GHZ six core processor
24GB DDR3 1333MHZ ECC RAM
4 – 600GB 15K SAS 6Gbps hot-swap drives (RAID 10)
PERC H710 SAS RAID controller, 512MB Cache
4 – Broadcom® 1Gb NICs (4 active on standard install)
Preloaded with Edgenuity media
2U rack – dual power supply

Additional Specifications

Edgenuity media appliances are custom loaded to customer specs by the Edgenuity Technical staff. Edgenuity appliance programming and multimedia content are included. Network load balancing is installed utilizing 1–4 NICs, depending upon the appliance.

- Edgenuity Mini Tower media appliances utilize one NIC.
- Edgenuity media appliances with multiple NICs utilize network load balancing.
- Edgenuity requires that each NIC on team is connected to a 1Gb switch at or near the customer network backbone.
- All NICs should be connected to the same switch.
- Edgenuity recommends media appliances are placed within an environment suitable for computer equipment.
- For larger installations, multiple media appliances may be used. Media appliances do not require firewall access from the outside.
- Bond requires no switch programming and should be compliant with all network devices.
- Edgenuity media appliances are self-updating and require no user maintenance.
- All appliances come with Edgenuity Rapid Replacement service (three years).

Media Appliance Installation Requirements

Prior to shipment, Edgenuity requires customers prepare one (1) static Internal IP number for the unit, along with host name, primary and secondary DNS, gateway, and net mask information. Unit(s) ship ready to configure, allowing customers to connect to their network and power source. After the unit is powered on, customers can log in with Edgenuity media appliance information located within Configuration instructions to run the Automatic Configuration Utility. Units require 1-2U of rack space and ship standard with a universal sliding rail kit which fit most standard racks. Units require 1-2 standard NEMA 5 120/220Volt plugs. Additional rack and power options are available (i.e. for PDU) and should be discussed with Edgenuity Technical Staff prior to shipment. Rack units ship with front locking bezel; Edgenuity highly recommends customers install and lock any installed media appliance.

Outside of initial configuration, unit does not require a keyboard, mouse, or monitor. Unit does not require outside public IP and requires access to the Internet via ports 22, 80, 443, and 10000. Unit is self-updating and requires no customer maintenance or support.

Bonded Tier I – II appliances will include a Bonded Appliance Notice within the box upon shipment.

Please Note: If your location uses web filtering *.edgenuity.com **MUST** be included within your white list in order for the media appliance to perform necessary updates. Specifically, the appliance will need access to *.edgenuity.com over ports 22, 80, 443, and 10000. The bond requires no switch programming and should be compliant with all network devices. Contact Edgenuity at fieldengineers@edgenuity.com with your network settings or configuration questions.

Physical Edgenuity Appliances Configuration

Before starting, please ensure your network cable is connected to the appliance. The following will also be needed:

- Static/Default IP address
- Verify Ports 22, 80, 443, and 10000 are open for both inbound and outbound traffic.
- Subnet address
- Gateway address
- DNS address(s)
- Hostname (does not have to be FQDN).
We recommend Edgenuity.schoolname.local (change “schoolname” to the actual name of the school where the appliance is located.)
- District or school contact name and contact email address
- School name

Login to the Appliance

A keyboard, mouse, and monitor (or kvm) must be connected to the appliance prior to start of configuration.

At the login prompt enter the following:

Login: edgenuity

Password: qzr97hs

Configure the Network (Static IP required)

1. A terminal will open asking if you would like to configure the IP.
2. Select “y” for yes; press <Enter>.
3. Complete the requested information. Press <Enter> key to navigate to the next prompts.
4. Once your information has been entered successfully the appliance will test your settings.
5. If settings have been configured correctly the appliance will automatically submit an email to Edgenuity with the information you entered and proceed to close the terminal.
6. Proceed to **Verify Changes to the Appliance** if the appliance has been configured correctly.
7. If configured incorrectly the appliance will prompt you to re-enter the IP information. The appliance will automatically repeat steps 4 and 5.
8. If the information is entered incorrectly twice, the appliance will prompt you to contact fieldengineers@edgenuity.com. You may also contact Edgenuity toll-free at 877-202-0338.

Verify Changes to the Appliance

1. From the desktop, double click **open gnome-terminal** icon.
2. Type ‘**sudo ifconfig**’.
3. Enter the appliance password, **qzr97hs**; press <Enter>.
4. Verify changes to IP and Subnet previously made.

Test the Appliance

1. On a separate PC or Mac computer test the new IP information by accessing <http://ipaddress/> (where “ipaddress” is replaced by the static IP of the appliance) from a web browser to access the Edgenuity test page.
 - a. If your appliance is properly configured, a video lecture will play from within the Edgenuity test page.
 - b. Once the lecture displays from within the test page, configuration is complete. Students will automatically be redirected to the appliance for the media content within coursework.
2. Contact Edgenuity at 877-202-0338 or email fieldengineers@edgenuity.com with questions.

Appliance Content Updates

Periodic verification of nightly appliance content updates can be performed by accessing <http://ipaddress/heartbeat.txt> (where “ipaddress” is replaced by the static IP of the appliance) from a web browser the information of an appliance’s last update will display.

Virtual Server Media Appliance System

Edgenuity offers a virtual media appliance solution to assist our customers in an ever-changing educational technology arena. Three (3) platform formats of Edgenuity Virtual Media Appliances (VMA) are available and supported based on the customer's implemented virtual infrastructure. Platform formats include VMware® 4.0+, Citrix® XenServer® 4.0+, and Microsoft® Hyper-V® 1.0 or higher. All Edgenuity appliances include appliance programming and multimedia content.

The Edgenuity VMA is pre-configured with Tier I media appliance specifications and resource requirements. As a customer's network grows, VMA resources can be adjusted. Additional memory, processor, and virtual disk storage resources can be committed to scale the Virtual Tier I media appliance into a Virtual Tier II media appliance. Additionally, VMA images can be copied and replicated as needed for use within the same district. This allows longer usage of the VMA without the need to supply additional hardware. Use of two (2) virtual NICs is suggested for network load balancing of larger deployments. Access to incoming ports 22, 80, 443, and 10000 to the Internet is also required to apply updates to the VMA.

Edgenuity Virtual Media Appliance Image Requirements

Server Image Size	<ul style="list-style-type: none">• 600 GB
Virtual Platform Formats	<ul style="list-style-type: none">• VMware 4.0+• Citrix XenServer 4.0+• Microsoft Hyper-V 1.0
Minimum Virtual Platform Requirements	<ul style="list-style-type: none">• 2 Processors• 4 GB RAM• 600 GB Available Disk Space

Note: Edgenuity Virtual Media Appliance Images are built on Tier I media appliance specifications and resource requirements.

Software Specifications – Virtual Media Appliances

- Additional resources can be committed to increase the power of a VMA if needed for larger installations.
- Edgenuity recommends use of two (2) virtual NICs to be load balanced for performance.
- Edgenuity VMAs are self-updating and require no user maintenance.
- There is no limit to customer replication (within the same district) of a VMA Image.
- Virtual Machine IP will need to be supplied to Edgenuity.

After receiving information for a customer's network platform, Edgenuity will ship a virtual image on a returnable, 2.5" USB3-capable portable hard drive. Once received, the virtual image can be imported into a virtual environment. Installation and import of the image is based upon the virtualization product being used. If your location uses web filtering, *.edgenuity.com MUST be included within your white list in order for the media appliance to perform necessary updates. Establishment and setup of an IP for a VMA in our hosted system is also needed. Please contact your local Edgenuity Field Engineer at fieldengineers@edgenuity.com for assistance with this process.

Once the server image is imported and the VMA is in use, both the customer and Edgenuity treat this device as a physical media appliance for setup and configuration. A pre-paid shipping package is included when receiving the server image. Upon completion of import, the portable hard drive would be returned to Edgenuity. Resources for a VMA can be adjusted at any time by a customer for growing networks. If additional resources are needed for growth, assistance is available.

Please Note: Videos within Advanced Placement and World Language courses are not included with video content available within an Edgenuity VMA. Courses include the following:

Advanced Placement Courses

- French Language & Culture
- Spanish Language & Culture

World Language Courses

- Chinese
- French
- German
- Latin
- Spanish

Edgenuity Virtual Media Appliance Configuration

Please ensure you have the following information:

- Static/Default IP address
- Verify Ports 22, 80, 443, and 10000 are open for both inbound and outbound traffic.
- Subnet address
- Gateway address
- DNS address(s)
- Hostname (does not have to be FQDN).
We recommend Edgenuity.schoolname.local (change “schoolname” to the actual name of the school where the appliance is located.)
- District or school contact name and contact email address
- School name

Login to the Appliance

A keyboard, mouse, and monitor (or kvm) must be connected to the appliance prior to start of configuration.

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2. Select “y” for yes; press <Enter>.
3. Type in the requested information. Press <Enter> key to navigate to the next prompts.
4. Once your information has been entered successfully the appliance will test your settings.
5. If settings have been configured correctly the appliance will automatically submit an email to Edgenuity with the information you entered and proceed to close the terminal.
Proceed to **Verify Changes to the Appliance** if the appliance has been configured correctly.
6. If something has been configured incorrectly the appliance will prompt you to re-enter the IP information. The appliance will automatically repeat steps 4 and 5.
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Verify Changes to the Appliance

1. From the desktop, double click **open gnome-terminal** icon.
2. Type ‘**sudo ifconfig**’.
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Test the Appliance

1. On a separate PC or Mac computer test the new IP information by accessing <http://ipaddress/> (where “ipaddress” is replaced by the static IP of the appliance) from a web browser to access the Edgenuity test page.
 - a. If your appliance is properly configured, a video lecture will play from within the Edgenuity test page.
 - b. Once the lecture displays from within the test page, configuration is complete. Students will automatically be redirected to the appliance for the media content within coursework.
2. Contact Edgenuity at 877-202-0338 or email fieldengineers@edgenuity.com with questions.

Appliance Content Updates

Periodic verification of nightly appliance content updates can be performed by accessing <http://ipaddress/heartbeat.txt> (where “ipaddress” is replaced by the static IP of the appliance) from a web browser. Information of an appliance’s last update will display.

Edgenuity System Functionality: Login and Security

Providing access to the Virtual Classroom and Web Administrator via any Internet-connected computer provides maximum flexibility, but can create network security issues. To resolve this, Edgenuity provides the option of Student and Teacher Secure Station.

With **Secure Station**, a proprietary Edgenuity program, school districts have the added security of end-user usage control in addition to a controlled environment to monitor and secure access to the Edgenuity Virtual Classroom and Web Administrator. Secure Station provides the capability to allow or disallow access at the end-user level. The security allows a school to limit access to a computer lab or other monitored computer systems. If access is requested from a home, library, media center or elsewhere, Secure Station allows districts to grant or deny entry into the program. This is accomplished by only allowing access to stations that have been authenticated by an Edgenuity School or District Administrator user.

How Secure Station Works

The Edgenuity Secure Station Network is managed by the District/School Administrator user who allows or denies program access through a simple authentication process. This process will create a Secure Station White List of allowable computers that have been authenticated. By creating a “list,” Secure Station obtains unique identifiers regarding the computer attempting to log in as well as details about the user. Secure Station authenticates a computer based on the white list using details unique to the computer attempting to log into the Virtual Classroom or Web Administrator.



Students Logging Into a Secure Station Network

When a student attempts to log into a computer where Secure Station is enabled for the district, the following screen will appear loading a java applet to run Secure Station. Once Secure Station is applied, the Edgenuity Security Management System will load requesting authentication for the computer being used to log into the Edgenuity Virtual Classroom. Secure Station will then validate the computer workstation and allow the student to enter into the Virtual Classroom.

Teachers Logging Into a Secure Station Network

As an added security option, Edgenuity has also implemented Teacher Secure Station. The process is identical to the Student Secure Station process except the system locks down access to the Edgenuity Web Administrator site to authenticated locations. With Teacher Secure Station enabled, if students inadvertently obtain a teacher's login and password they will be denied access to the site from unauthorized computers.

Access from Remote Locations Outside of School

In addition to school computer labs, students can access the Virtual Classroom from any computer with a high-speed connection via the Edgenuity ASP model. For students accessing the Virtual Classroom outside of school, a high-speed Internet connection provides full access to the Virtual Classroom with all associated lecture videos, course materials, and other activities via a standard web interface. All results and tracking are posted to the same Edgenuity School Administration system so that teachers can see the progress for any student at any time.

White List & Internal Proxy System

Edgenuity has deployed an Internal Proxy System, ensuring students are on-task and remain safe when using outside content contained within course activities. It also allows Edgenuity to have a smaller, more static White List.

To support the close and active reading of text for students at all reading levels, Edgenuity provides a CloseReader™ toolset for students. The toolset includes word look-up, text highlighters, annotation tools, read-aloud, and translation. Students can use these features on any HTML text within the system, including text within a third-party website accessed from inside the Virtual Classroom.

Please note: The CloseReader and Internal Proxy System both rely upon the White List and IP range provided below. Some content filters, web proxies, and/or classroom management software may also require white listing the local media appliance (if purchased). Allowing the Google sites listed within the White List through your content filter will not open all Google content, as it is referencing specific directories needed for the CloseReader.

Edgenuity Required White List

*.edgenuity.com ¹	*.k12hsn.org
*.edgenuity.us	*.quizlet.com
*.education2020.com ¹	office.microsoft.com
*.education2020.us	google.com/uds
*.e2020inc.com	https://www.desmos.com/calculator
*.pglms.com	http://www.google.com/jsapi
*.explorellearning.com	http://www.onetonline.org/
*.speechstream.net	sas.illuminate.com ²
*.montereyinstitute.org	server.iad.liveperson.net ²
*.ucopenaccess.org	

Edgenuity Optional White List

*.edu	www.pbs.org
*.gov	pbskids.org
www.quia.com	i.infoplease.com
www.bbc.co.uk	ph.infoplease.com
www.regentsprep.org	library.thinkquest.org
mathworld.wolfram.com	www.worldbookonline.com
www.glencoe.com	

IP Ranges[^]

Present Outbound Internet Address

63.151.163.57 – 63.151.163.62	63.151.163.58
63.232.122.1 – 63.232.122.254	63.232.122.1
63.232.123.2 – 63.232.123.254	63.232.123.2
74.206.102.131 – 74.206.102.158	74.206.102.133

¹ Ports 22, 80, and 443 must be opened.

² For use with Instructional Learning sites only.

[^] Edgenuity utilizes mp4 video formatting for course content videos. You will need to ensure mp4's are included within the IP ranges within your network and your local Edgenuity media appliance.

For additional questions, please contact Customer Support at customersupport@edgenuity.com or via telephone at 1.877.202.0338.

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