

Introducing



Think Through Math

//CODiE//
2012 SIIA CODiE WINNER
*"Best Mathematics
Instructional Solution"*

Professional Services

TECHNICAL SPECIFICATIONS

System Overview and Disaster Recovery

Think Through Math leverages a cloud infrastructure. This approach allows us to increase platform resources to support additional user load in a matter of minutes so that the system can scale quickly and efficiently. Think Through Math is load tested annually at twice its expected peak concurrent user load for the projected school year.

Think Through Math uses a third party to continuously monitor several performance metrics, including uptime, average page load time, and database transaction time. IT staff are alerted if any of these metrics fall outside of our internal standards. Beginning in the 2012-13 school year, system status and uptime information will be available to customers through a Web interface.

Think Through Math maintains relationships with multiple datacenter providers in geographically distributed locations. In the event of a disaster that completely disables the facility that houses the primary application, Think Through Math's Disaster Recovery Plan is designed to restore full application functionality within 24 hours. Think Through Math's application source code and other critical business documents are backed up nightly and stored in multiple, geographically dispersed locations.

As a hosted web-based application, all customer support, teaching and administrative functions for the platform can be provided from any location with Internet access and would be supported by Think Through Math personnel from alternate locations should there be any business interruption at Think Through Math's office facilities. This environment establishes continuity of service to our customers.

Additionally, communications (email) and customer resource management (CRM) applications are web-based applications. In the event of an office facility business interruption, these internal systems would be accessed from alternate locations without interruption to our business. In addition to email, all Think Through Math personnel have access to a web-based text message service and a web-stored company phone directory to provide multiple modes of communication within our organization in the event of any disruption to office facilities.

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TTM TECHNICAL REQUIREMENTS

I. System	Minimum	Recommended
Operating System	Windows XP Mac OS X v10.4	Windows 7 Mac OS 10.5 or later
Note: iOS (iPad, any version) is currently a supported configuration for <i>Teacher and Administrator use only</i> . At this time, student math content will not be accessible through iOS.		
RAM	512 MB or higher	1GB or higher
Display Resolution	1024 X 768	1280 x 1024
II. Browser	Minimum	Recommended
Windows	Microsoft Internet Explorer 8.0	Firefox 3.x or higher Chrome 20.x or higher
Mac OS	Firefox 1.5 or Safari 2.0	Firefox 3.x or higher Chrome 20.x or higher
III. Software	Minimum	Recommended
Adobe Flash Player	Version 10.0	Version 10.0 or higher
IV. Sound	Minimum	Recommended
Sound Card	—	Integrated
Headphones	—	Headphones are required for proper program usage
V. Network	Minimum	Recommended
Connection speed between customer network and internet	256 kbps broadband	>1Mbps broadband sustained
Cache Server/ Content Filtering	—	Content displayed on Think Through Math may be loaded from any of the following domains: *.thinkthroughmath.com: HTTP (80) and HTTPS (443) – Used for general application content fms.thinkthroughmath.com/Ports: TCP/1935 and TCP/80 – Used for student communication with Think Through Math Live Certified Math Teachers cdn.mathjax.org: HTTP (80) and HTTPS (443) – Used for display of math formula content in the browser *.wolframalpha.com: HTTP (80) – Used to provide additional examples of equation solving strategies. Can be disabled in the application if preferred. *.bunchball.net and *.bunchball.com: HTTP (80) – Used for student motivation and rewards thinkthroughlearning.zendesk.com: HTTPS (443) – Used for customer trouble ticketing and support chat

Think Through Math uses cloud-based infrastructure to provide scalability to ensure student wait times are minimized. Because of this, it is not possible to predict the IP addresses that will be used to serve content in the application. White listing based on IP address is not a supported configuration, as source IP addresses can change over the course of student usage.