

The CPS Connection for Blackboard

From eInstruction Corporation

Looking for a way to integrate classroom performance and Blackboard? eInstruction's CPS Connection may be the answer you're looking for. This CPS-Blackboard integrated feature uses software from Blackboard with the Classroom Performance System (CPS) from eInstruction, the world leader in interactive classroom instructional tools.

Instructors can finally use the best of both worlds—instructors can engage their students in a lesson and record student responses then upload the information to Blackboard for students and instructors to review online. Your student data will remain safe: eInstruction uses only secure servers for transfer of data between Blackboard and CPS.

Connect the classroom to home...

The CPS Connection allows instructors to more effectively engage their students both in the classroom, using CPS, and at home, when students use Blackboard. The CPS Connection is easy to install, and our Technical Sales Support team is ready to assist you in any way we can. In addition, CPS's user-friendly interface allows instructors to quickly and easily use the link. Using CPS, instructors will be able to view the following on Blackboard:

- **Individual performance results.** CPS records performance data for each student in class. Individual student data can be accessed by the student via Blackboard.
- **Attendance.** Instructors can keep attendance records, and even distribute bonus points to students who regularly attend class. If instructors track student attendance using attendance assessments, students will be able to track their attendance progress through Blackboard.
- **Gradebook.** Instructors can upload assessment data captured using CPS to the Blackboard grade book

Use your existing software...

The CPS Connection requires very little additional software. The following components are necessary for you to use the CPS Connection.

Blackboard Learning Systems. The CPS Connection Building Block is compatible with Blackboard Learning Systems versions 6.x. Because this building block works with your instructors' existing Blackboard software, the instructors will not need to learn a new program.

CPS Connection Building Block 1.0. eInstruction will provide you with the latest building block version, 1.0.

You will also have a Technical Sales Support team ready to assist you Monday through Friday, from 7:00 AM to 6:00 PM (CST). You can reach Technical Sales Support by calling 888.333.4988 or by sending an email to techsupp@einstruction.com.

CPS Connection Building Block Requirements

- **Blackboard**
The connection supports Blackboard Learning Systems versions 6.x.
- **CPS-Blackboard Building Block**
eInstruction will provide you with the latest version, CPS Connection Building Block 1.0.
- **Classroom Performance System (CPS)**
The feature works with CPS for PC version 4.0 beta and higher, and with CPS for Mac version TBA (available by Fall 2006).

Classroom Performance System (CPS). CPS is interactive software created by eInstruction Corporation that allows instructors to engage their students in the classroom and record student responses, which can later be analyzed by the instructor. Instructors can use CPS with either a PC or a Mac.

- **PC Users**

Your instructors will need to have CPS 4.0 beta or higher installed on their computers. In summer 2006 they can download the latest version, CPS 4.0, for free from our website, www.einstruction.com/downloads.

- **Mac Users**

The CPS Connection for Mac will be available for instructors for Fall 2006. Instructors will be able to download CPS for free from our website, www.einstruction.com/downloads.

Create a secure link...

The CPS Connection Building Block 1.0 creates a link between CPS and Blackboard using Blackboard's Building Blocks feature and the CPS online component, CPSOnline.

Communication Overview for Blackboard, CPSOnline, and CPS

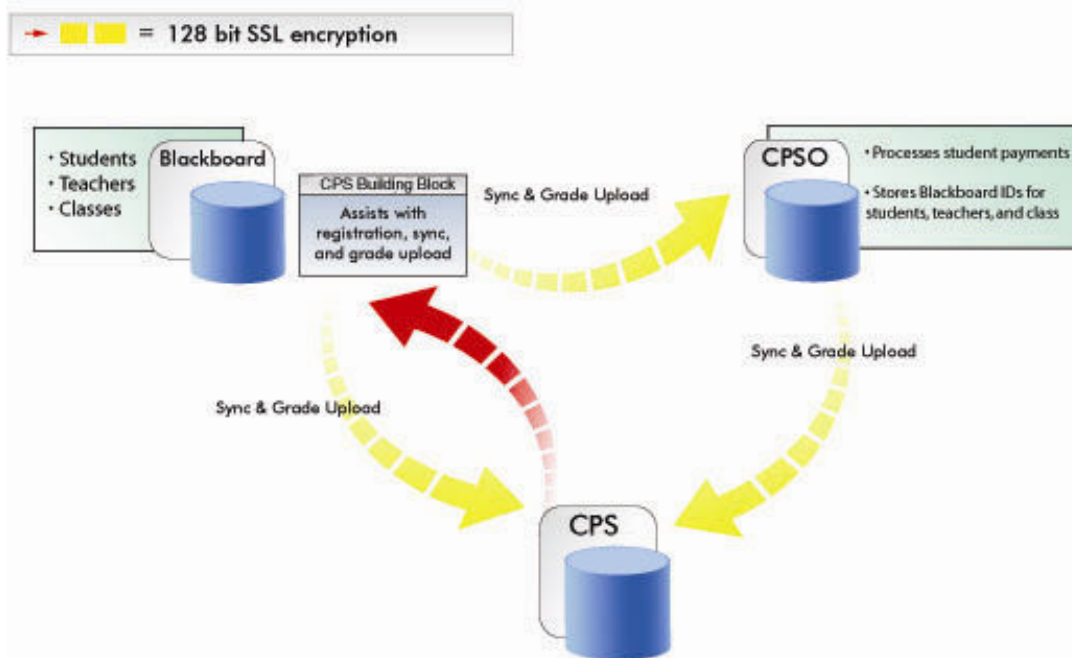


Figure 1. CPS Connection Building Block

The CPS Connection Building Block maintains student security throughout the transfer process. Every aspect of the connection is protected—from when instructors register their class to when instructors upload the student data.

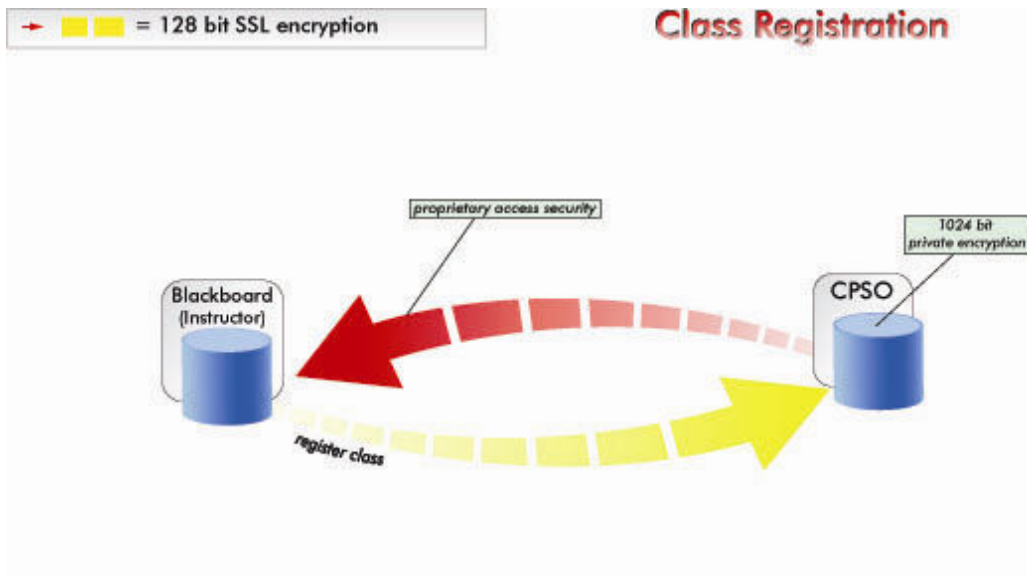


Figure 2. Connection between Blackboard and CPSOnline during Class Registration

Class registration is simple when using the building block. Once you have the CPS Connection Building Block enabled through Blackboard’s Building Blocks feature, you can customize the settings for specific colleges, departments, or instructors.

Instructors log on to Blackboard and enable the CPS Connection link using the Register Class button (once you’ve set this up). See the IT Administrator’s Guide for the CPS Connection Building Block on how to set this up in your version of Blackboard.

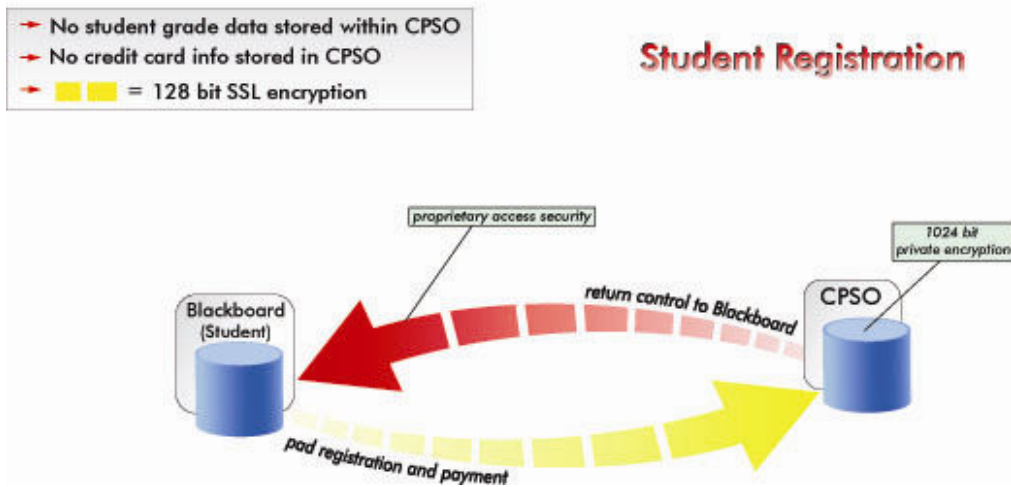


Figure 3. Blackboard and CPSOnline interaction during Student Registration

Students can register for their class through the Blackboard portal. When the instructor registers the class, the link between CPSOnline and Blackboard becomes active. As students register for their class on Blackboard, Blackboard retains the student information in a class roster.

CPS Sync with with Blackboard

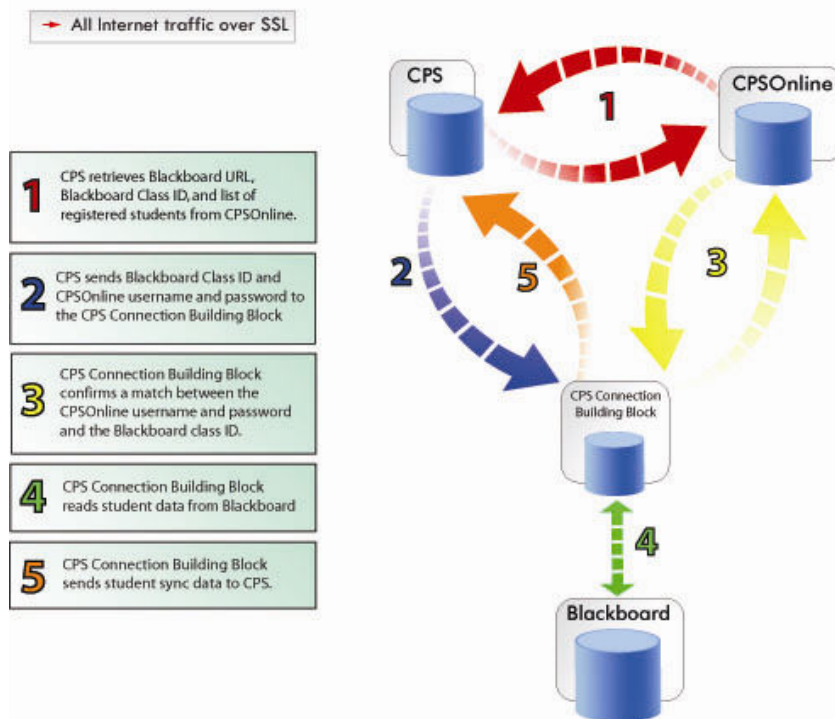


Figure 4. Data path from CPS to Blackboard

When instructors use CPS, they can choose to connect to their class online. After the instructor logs in, CPS prompts the instructor for their Blackboard username and password. CPS then connects with Blackboard and extracts the class roster. The entire class roster, including student names and response pad ID numbers, will be available in CPS. As new students register for the class, the CPS Connection will continue to update the class roster as the instructor logs on.

Protect student data...

The connection between CPS and CPSOnline, and the connection between CPSOnline and Blackboard are secure. The CPS Connection Building Block uses port 80 (open by default) and a secure port, port 443, to bridge the connection.

CPS – CPSOnline Connection

CPS and CPSOnline use SSL encryption, used by banks and financial institutions worldwide, to ensure that all data is transmitted securely. The CPS-CPSOnline connection uses public key cryptography encryption with a 128 bit public key and transmission and a 1024 bit private key on the server(s).

Once the information is passed to CPSOnline, the information remains secure. Our site offers complete redundancy in power, HVAC, fire suppression, network connectivity, security, drive arrays, web servers and database servers. We have multiple power grids driven by TXU electric, multiple Liebert and PowerWare UPS battery backup power, and onsite permanent generator power.

Our HVAC systems are a combination of glycol, chilled water, and condenser units by Liebert and Data Aire to provide redundancy in cooling coupled with 6 managed backbone providers.

Twelve third party backbone providers are available via cross connect. Fire suppression includes a pre-action dry pipe system including VESDA (very early smoke detection apparatus) along with over 600 smoke detectors. Onsite security is also a concern so we utilize key card access with CCTV for maximum security. All visitors must check in and out of the facility. The goal is to provide maximum redundancy in every facet of the datacenter environment to facilitate 100% uptime for your school's data.

As far as data security, we have built in security from the start. The students' data is never on any server that is accessible on the web. Our databases are accessible only via database specific NIC cards utilizing non-routable IP addresses.

Our sites use a combination of hardware firewall solutions as well as multiple network separations. All security appliances feature very low latency, high throughput IPSec encryption.

The CPS Connection Building Block never sends student names to CPSOnline. When an instructor syncs their class with Blackboard, student names are sent from Blackboard through the building block directly to CPS. This ensures that important student information transfers securely from Blackboard to the instructor's computer.

Credit Card Purchasing

When students register for their class in Blackboard, and pay for their class access, all credit card information is also kept secure. VeriSign provides the merchant account processing for all credit card transactions, as well as SSL certificates for the website. In addition, eInstruction is CISP-certified by Visa and MasterCard. *No student credit card numbers, card expiration dates, or student contact information will be stored in CPSOnline.*

eInstruction will work with your institution to create the solution that best fits your needs. Some institutions choose to purchase CPSOnline class access for their students, while others ask students to purchase access. Whatever your needs, eInstruction can help.

Security Information

Class Registration. 128 bit SSL encryption connection between CPS and CPSOnline, with a 1024 bit private key for data while it passes through CPSOnline.

Student Registration. Proprietary access security and a 128 bit encryption connection between CPSOnline and Blackboard.

Sync Process. 128 bit encryption connection as data flows from CPS to CPSOnline to Blackboard and back again. Data is protected by a 1024 bit private encryption key while moving through CPSOnline and protected by proprietary access security as it enters Blackboard.

Upload student data...

When instructors open CPS, they can choose to log in to their Blackboard class. The logon simply opens the connection between CPS and Blackboard, allowing instructors to upload student performance data to Blackboard.

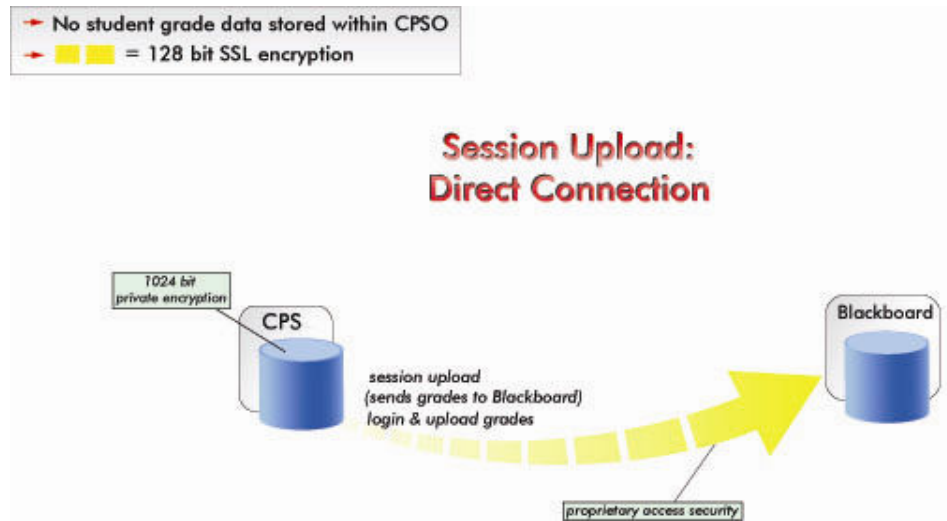


Figure 5. Data flow from CPS to Blackboard directly after ending a session

The CPS session upload, which can be done automatically after an assessment or at any other time through the CPS *Reports* or *Gradebook* tab, is sent to the CPS Connection Building Block via a 128 bit SSL encrypted communication. The Building Block then communicates with Blackboard, via the CPS Connection Building Block, also through a 128 bit encrypted communication line.

When instructors choose not to upload their session data immediately after a session, or are not connected to the internet while they are teaching, they can always upload data at a later date, using the CPS *Reports* or *Gradebook* tab.

Upload from the Reports tab

The instructor opens the *Reports* tab in CPS. The instructor then completes the following steps to upload the session to Blackboard:

1. Right-click on the session you would like to upload. A pop-up menu appears.
2. Choose **Upload to Blackboard**. A password prompt appears.
3. Enter your *Blackboard* username and password.

CPS uploads the session to Blackboard via the CPS Connection Building Block.

Upload from the Gradebook tab

The instructor opens the *Gradebook* tab in CPS. The instructor then completes the following steps to upload the session to Blackboard:

1. Select the assessment you would like to upload.
2. Click the **Upload** icon. A password prompt appears.
3. Enter your *CPS-Blackboard Connection* username and password.

CPS uploads the session to Blackboard via the CPS Connection Building Block.