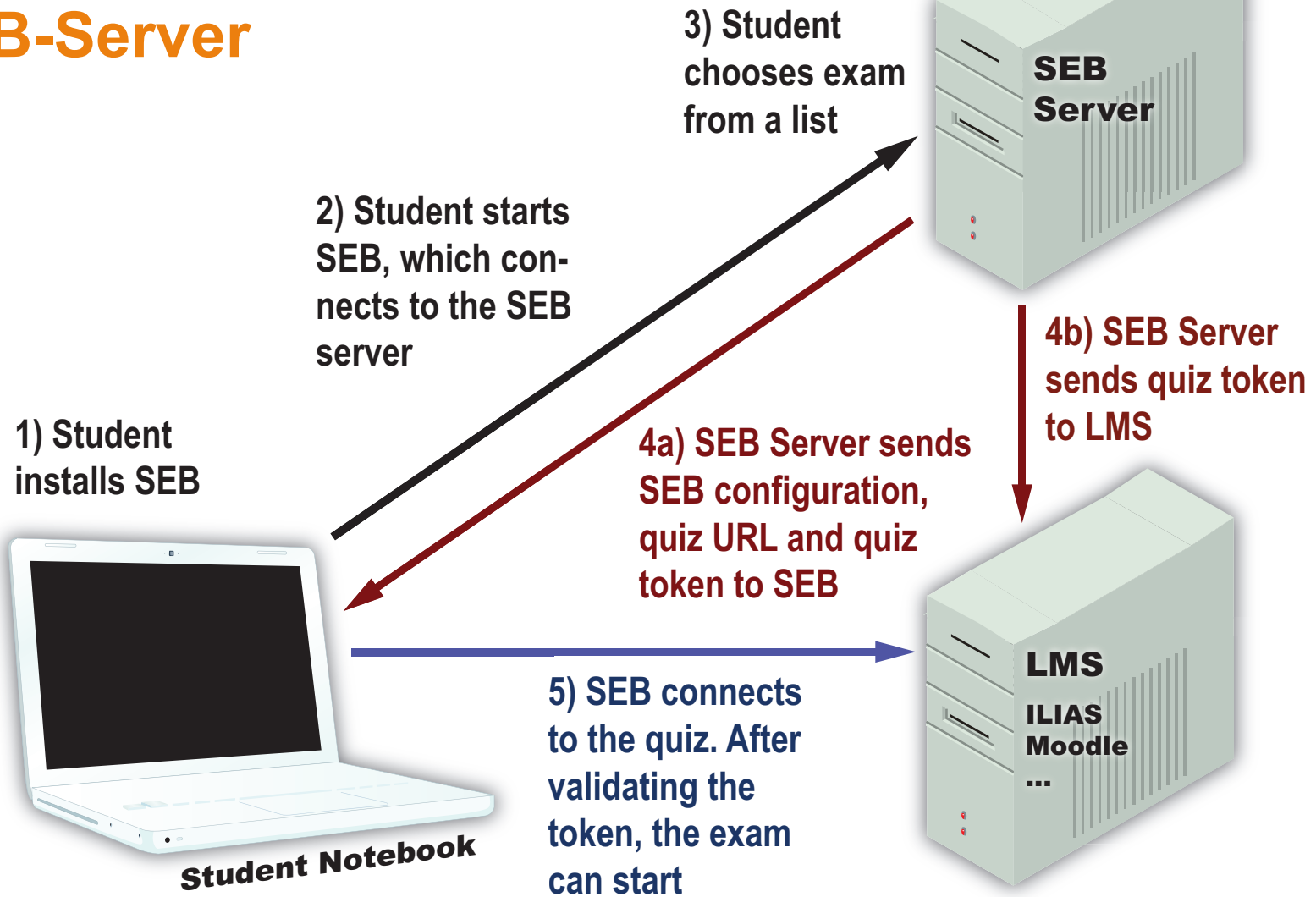# eduhub days 2013

The new Safe Exam Browser 2.0 enables BYOD for exams

Daniel R. Schneider (schneider@let.ethz.ch)

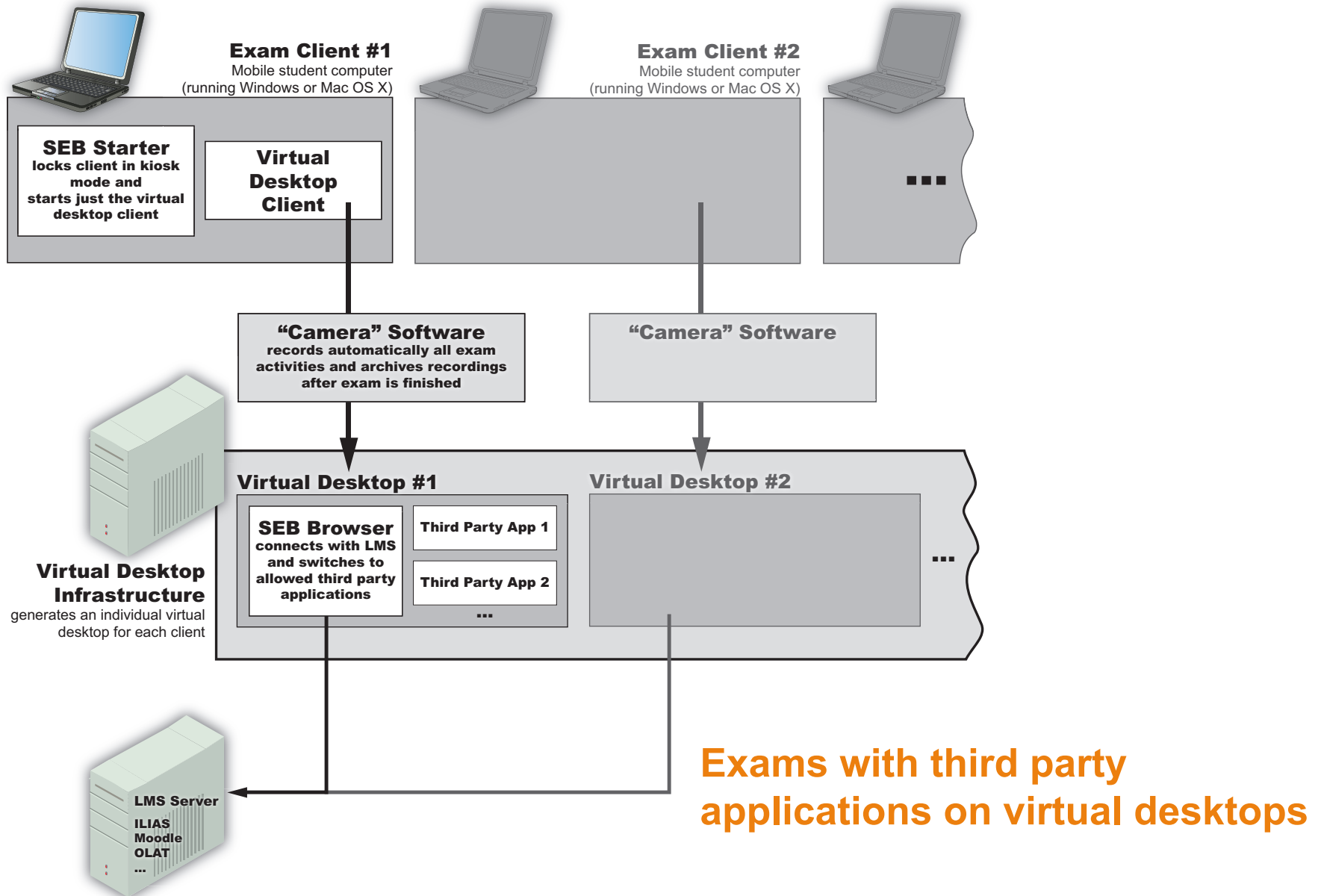# Examinations on students' personal computers

- Securing integrity of the SEB application

- Encrypted and signed individual configuration for each exam

- SEB server – a third component in addition to the examination computer and the LMS server would provide more security especially on unmanaged exam computers

SEB-Server

3) Student chooses exam from a list

SEB Server

2) Student starts SEB, which connects to the SEB server

4b) SEB Server sends quiz token to LMS

1) Student installs SEB

4a) SEB Server sends SEB configuration, quiz URL and quiz token to SEB

LMS
ILIAS
Moodle
...

5) SEB connects to the quiz. After validating the token, the exam can start

Student Notebook

Improved control when using third party applications

- **Problem**: Using additional applications during an exam is a challenge, particularly on unmanaged student computers
- Control over third party applications has to be improved

- **Solution**: Integrate a virtual desktop infrastructure (VDI) client software into an exam system based on SEB.
- SEB kiosk application secures exam clients
- SEB browser and third party applications are running in a virtual desktop

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Exam Client #1
Mobile student computer
(running Windows or Mac OS X)

Exam Client #2
Mobile student computer
(running Windows or Mac OS X)

SEB Starter
locks client in kiosk mode and
starts just the virtual desktop client

Virtual Desktop Client

"Camera" Software
records automatically all exam activities and archives recordings after exam is finished

"Camera" Software

Virtual Desktop Infrastructure
generates an individual virtual desktop for each client

Virtual Desktop #1

Virtual Desktop #2

SEB Browser
connects with LMS and switches to allowed third party applications

Third Party App 1

Third Party App 2

...

LMS Server

ILIAS
Moodle
OLAT
...

Exams with third party applications on virtual desktops

Exams using tablet computers

6) In unten stehendem Diagramm sollen Sauerstoff-Bindekurven von Myoglobin und Hämoglobin eingezeichnet werden. Beschriften Sie die Achsen des Diagramms (Name und Symbole der Parameter, Einheiten, keine absoluten Werte nötig). (2 Punkte)
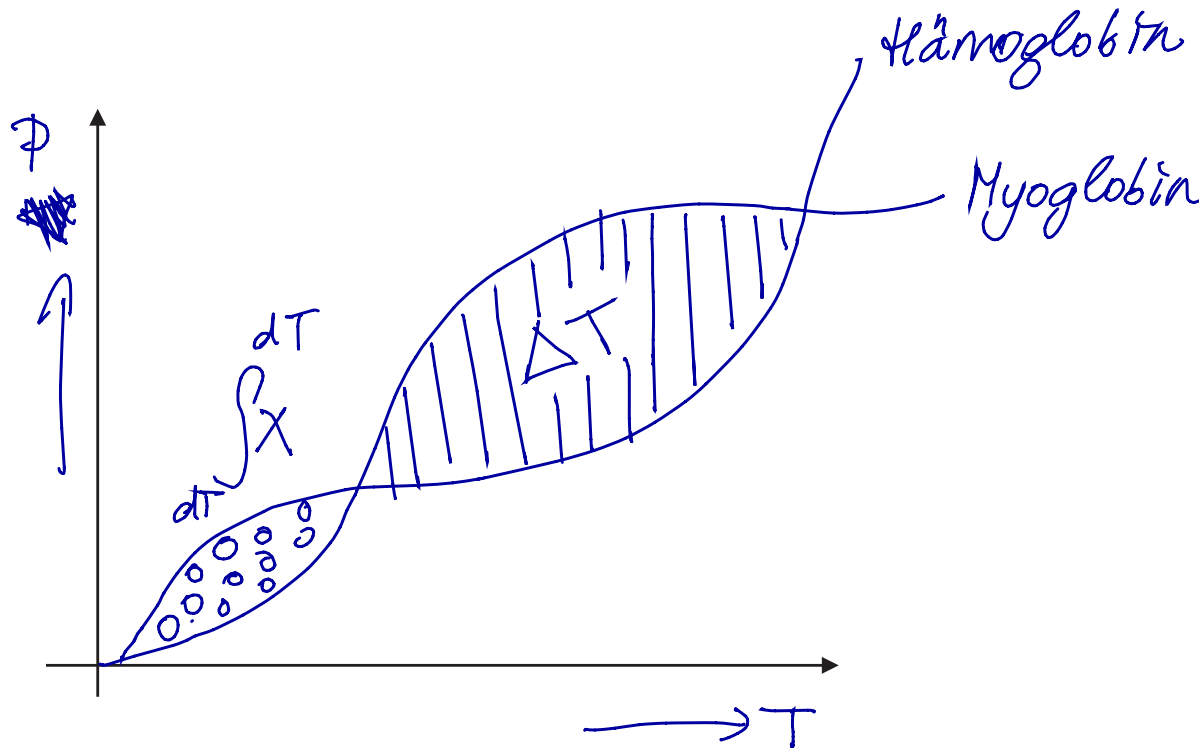
Thank you!

More information and download at
www.safeexambrowser.org