Transforming Blackboard Infrastructure using API Lead Connectivity

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Editor’s Note:

Blackboard’s Heather Maniscalco gave this presentation at the “DC Web API User Group Meetup held Tuesday evening, July 7, 2015, at the CHIEF location 1800 Massachusetts Avenue, 2nd floor. CHIEF is a Rock Creek Publishing Group Inc. company. The company hosts the Meetup each month.

Other presentations included Justin Raines, CTAC (Communications Training Analysis Corp), Lindsay Young, 18 F Team, U.S. General Services Administration, and Michael Pulsifer, U.S. Department of Labor.

Co-organizer Gray Brooks was the Event Host.
Forward-looking statement

Statements regarding our product development initiatives, including new products and future product upgrades, updates or enhancements represent our current intentions, but may be modified, delayed or abandoned without prior notice and there is no assurance that such offering, upgrades, updates or functionality will become available unless and until they have been made generally available to our customers.
Introductions

- **Blackboard Inc.** [www.blackboard.com](http://www.blackboard.com)
  - Our goal is to make learning more desirable, accessible, and meaningful for learners. By doing this, we have a shared sense of purpose with teachers, administrators, and leaders at all levels that are working to improve outcomes for learners.
  - We serve over 19,000 clients in 100 countries, including 1,900 international institutions alone.
  - Out of the Top 50 Times Higher Education Reputation Ranking in 2014, 80% of the world’s top academic institutions work with us.
  - Our solutions and services are used by 1 in 3 U.S. school districts, including 70 of the largest 100 districts, and serve over 20 million K-12 students.
  - We support and work with 92% of the top online bachelor degree programs.

- **Products**
  - Blackboard Learn  Blackboard Collaborate  Blackboard Connect  Blackboard Transact  Blackboard Engage  Blackboard Analytics  Blackboard Mobile Learn  Mosaic by Blackboard  MyEdu  Moodlerooms
Introductions

• Heather Maniscalco, Sr Integration Engineer
  – Linkedin/in/heathermaniscalco, heather.maniscalco@blackboard.com
  – PeopleSoft, Blackboard, JIRA, Confluence, Oracle DBA / Architect / Systems Integrator at Syracuse and Cornell Universities
  – Tier 3 Software Engineer, Business & Systems Analyst, Integration Engineer at Blackboard

• Robert Dickel
  – Sr Systems Engineer, Cloud Services
Transforming into an API Driven Software and Services Organization

• MuleSoft API Management and ESB

• API Goals
  – Abstraction
  – Ease of use
  – Control
  – Front End Older APIs
  – Maintain, Extend, Scale
Infrastructure and APIs at Blackboard

- Private single tenant cloud – Flexgen
- Public multi tenant clouds – AWS, OpenStack
- VMware, NetApp (WFA), Infoblox, Icinga, Chef, continuous integration (Jenkens), ServiceNow

- Historically we not been a forward leaning API shop
  - Our flagship product, Learn, uses a proprietary technology to essentially build “plug-ins” and we use custom builds to integrate with external systems
  - Our platform infrastructure has not leveraged APIs to transport and control data either.
Transforming into an API Driven Software and Services Organization

Use Cases

• API displays capacity status for Flexgen

• API to give storage health to customers. There is a back end script which goes to the filer and gathers information. The API is used to mine the data.

• We are designing/planning an API which will allow us to create an abstraction layer between ServiceNow CMDB and provisioning requests to our three hosting platforms.

• Modernize our current APIs by front-ending with REST APIs and eventually replacing them.

• Modernize or replace modernize the NetApp APIs (WFA) to facilitate Cloudbolt and to allow other business units to use that API eventually. We could replace WFA

• Use MuleSoft as the orchestration layer.

• Rewrite our applications to be very API driven.