## What is Blackboard Learn SaaS?

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blackboard Learn</td>
<td>Delivered on a modern cloud computing technology stack in partnership with AWS</td>
</tr>
<tr>
<td>Updates</td>
<td>With <strong>zero downtime</strong></td>
</tr>
<tr>
<td>Single version</td>
<td>Continuously updated, as well as a flexible deployment option</td>
</tr>
<tr>
<td>Multiple tiers</td>
<td>(Plus, Advantage) to support different levels of service and customization</td>
</tr>
<tr>
<td>By default</td>
<td>The Original experience familiar to your students and faculty from Learn 9.1</td>
</tr>
<tr>
<td>Option to enable</td>
<td>The Ultra experience that provides a modern, intuitive, fully responsive user interface</td>
</tr>
</tbody>
</table>
Blackboard is constantly evolving the physical and logical architecture of Learn SaaS. The information in this diagram is subject to change.
Customers adopting Blackboard Learn SaaS

428 clients using our SaaS delivery model

63 additional migrations underway

23 more evaluations and pilots

* Partially migrated / active migrations
What you need to know about moving to Blackboard Learn SaaS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>To be able to use Ultra</td>
<td>a move to SaaS is required</td>
</tr>
<tr>
<td>The move to SaaS takes</td>
<td>approx. 4-6 months</td>
</tr>
<tr>
<td>Smaller and more frequent</td>
<td>updates, without downtime</td>
</tr>
<tr>
<td>Blackboard works in</td>
<td>partnership with Amazon (AWS)</td>
</tr>
<tr>
<td>Our SaaS datacenter is</td>
<td>in Sydney</td>
</tr>
</tbody>
</table>

By deploying Learn in a SaaS environment, Blackboard is able to push innovation faster and more efficiently, to the benefit of teachers and learners, with industry leading technology that minimizes disruption.
### What are the tiers of SaaS Deployment

<table>
<thead>
<tr>
<th></th>
<th>Plus</th>
<th>Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability SLA</td>
<td>99.9%</td>
<td>99.9%</td>
</tr>
<tr>
<td>Base Storage</td>
<td>1TB</td>
<td>1TB</td>
</tr>
<tr>
<td>User Interface Options</td>
<td>Original (9.1) OR Ultra Experience</td>
<td>Original (9.1) OR Ultra Experience</td>
</tr>
<tr>
<td>Release Cycle</td>
<td>Continuous OR Flexible Deployment option</td>
<td>Continuous OR Flexible Deployment option</td>
</tr>
<tr>
<td>Support Learning Solutions</td>
<td>Full Suite</td>
<td>Full Suite</td>
</tr>
</tbody>
</table>
## What are the tiers of SaaS Deployment

<table>
<thead>
<tr>
<th>Building Block Support</th>
<th>Plus</th>
<th>Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full Support</td>
<td>Full Support</td>
</tr>
<tr>
<td>LTI, WebServices and REST API Support</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Test Instance</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Staging Instance</td>
<td></td>
<td>Optional add-on</td>
</tr>
<tr>
<td>Direct Data Access</td>
<td>Optional add-on</td>
<td></td>
</tr>
<tr>
<td>Service Delivery Management</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Two Milestones: SaaS Deployment & the Ultra experience

1st milestone
Transition to SaaS deployment with the Original experience
No change to the user interface

2nd milestone
Enable the Ultra experience
New navigation, same Original Course View, and new optional Ultra Course View
Two Milestones: SaaS Deployment & the Ultra experience

1st milestone

- Take advantage of the benefits of SaaS right away
- Keep the Original experience faculty and students are already familiar with (no end user change management)
- Utilize the test instance to assess and pilot the Ultra experience

2nd milestone

- Determine when to enable the Ultra experience to provide a more modern look & feel as well as quick access to the most critical information across courses
- Determine which instructors, departments, or programs will begin using the Ultra Course View and when
- Prepare for educator and student change management
## Requirements Gathering

- **Requirements Gathering**
- Gain an understanding of the business drivers and needs
- Special configs, integrations, B2s, etc
- Reviewed by Bb to ascertain any critical issues with a migration to SaaS

### Key Migration Aims

Migrating existing Learn Production data to Learn Hosting/SaaS?
If you answered no, leave the remaining questions in this section blank

<table>
<thead>
<tr>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-Sep-18</td>
<td>2-Feb-19</td>
</tr>
<tr>
<td>28-Feb-18</td>
<td></td>
</tr>
</tbody>
</table>

Please note: the desired start date for migration cannot occur before a signed contract has been received and processed by Blackboard. The end date for a migration should also be no less than 4 months from expected contract sign date. Blackboard will provide confirmation of this date after the information in this questionnaire has been reviewed. If the required dates conflict with this, please speak directly with your account manager.

### Migration Specifics

- Desired Migration Type?
- Desired Learn SaaS Release Cycle
- Comments/Details for migration and release cycle choice

**If working on a course by course migration, do you plan to migrate? (select all that apply)**

<table>
<thead>
<tr>
<th>Old Courses (Inactive)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live Courses (In session)</td>
</tr>
<tr>
<td>New courses for future terms</td>
</tr>
<tr>
<td>Users</td>
</tr>
<tr>
<td>Enrollments</td>
</tr>
</tbody>
</table>

### Desired URIs for your Learn SaaS Environments

- Production https://
- Test https://
- Staging (if applicable) https://

**Will you manage SSL certificates for these URIs?**

*Not applicable for Learn SaaS*

### Migration Pre-requisites Plan

- **Current Learn Production Version**
  - 3400.5.0-rel.12e+995c117

**Please note:** In moving to Learn SaaS, Blackboard requires a minimum version for SaaS. If your production Learn instance is not running this or a later version, you will be required to upgrade before migration.

**Document plans for completing migration pre-requisites.**

**Upgrade to fully support version**

14
Key Considerations

- Migration Type: Full System v Course
- Continuous Delivery v Flexible Deployment
- Outage window for migration – it can be different for every client
- Contingency window
- Interface Type: Learn 9.1 or Learn Ultra Base Navigation
- Integrations and Tools
- SSL Certs are managed by Bb
What is this Continuous Delivery (CD) & Flexible Deployment (FDO)?
What is Continuous Delivery vs. the Flexible Deployment Option?

**Continuous Delivery (CD)**
- Software industry standard practice
- Agile Development Process
- Release Cadence: ~2 weeks
- Releases can contain fixes, enhancements, and new features
- Smaller releases, less code and change per release
- Default delivery method for all SaaS customers
- **Supports the Ultra Experience**

**Flexible Deployment Option (FDO)**
- Unique Blackboard offering
- Agile Development Process
- Release Cadence: Q2/Q4 releases, Cumulative Updates (CU) every 3 months
- CUs contain fixes, enhancements only
- Q2/Q4 releases contain CUs + new features
- Larger releases, more code and change per release
- **Does NOT Support the Ultra Experience**
What is this Continuous Delivery (CD) & Flexible Deployment (FDO)?
What is Course based migration versus Full system migration?
What is Course based migration versus Full system migration?

**Course based migration**
- Archive selected courses from source Learn 9.1
- Restore into Learn SaaS
- Good for
  - merging a second instance
  - Starting with a fresh instance and selected content
  - Where a DB/FileSystem snapshot cannot be used
- Considerations
  - User data and statistics
  - B2s, Content linking

**Full System Migration**
- Database and filesystem snapshot used
- Brings ALL data from the source LMS
Activity 1: Requirements Gathering

Let's take a look at Activity 1 in the workbook.
1. Learn SaaS Overview
2. Requirements Gathering
3. Integrations, B2s and Customisations
4. Migration Planning
5. Post Migration
So I heard building blocks are going away?

• Building blocks are still used and installable in Learn SaaS, however
  – In Ultra, Course & System Tools (non-admin) must be LTI links
  – The database has changed to PostgreSQL
  – Restrictions over Private API use, wildcard security permissions
  – Must use public APIs for file and database access (eg. Connection pool)
  – B2 installation is done by support
<table>
<thead>
<tr>
<th>B2 that uses</th>
<th>SOAP WS</th>
<th>✔️</th>
<th>✔️</th>
<th>✔️</th>
<th>✔️</th>
<th>✔️</th>
<th>✔️</th>
<th>✔️</th>
<th>✔️</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>API JAVA</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>REST API</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>LTI that uses</td>
<td>SOAP WS</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td></td>
<td>REST API</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>External App</td>
<td>REST API</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>
Open to integrate, to extend, to access your data
Supporting Resources

- IMS Github Code: https://github.com/IMSGlobal/
- Bb Developer Code: https://github.com/blackboard
- Bb Community Site: https://community.blackboard.com
On-Demand admin access to an Ultra instance

Blackboard Learn for REST and LTI developers

• Offers extensive, open REST APIs enabling easy integration for third party and self-developed applications

• Supports open standards such as Learning Tool Interoperability (LTI).

• Preinstalled and Configured, Easy to Use!

• Spin up and use whenever you need
But what about command-line and direct database access – I need it . . .

• Traditional server admin access is not allowed in SaaS however:
  – Access to logs and log aggregation/searching tools
  – Access to the event store for ALL activity (IMS Caliper)
  – Direct Data Access (DDA)
## Integrations, B2s and Customisations considerations

<table>
<thead>
<tr>
<th>Integration</th>
<th>Customisation/Authentication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command line Snapshot (CLS)</td>
<td>SIS Framework / REST API</td>
</tr>
<tr>
<td>SOAP Web Services</td>
<td>REST API</td>
</tr>
<tr>
<td>Custom Themes</td>
<td>Custom Themes (9.1 SaaS)</td>
</tr>
<tr>
<td>Custom login page</td>
<td>Custom login page</td>
</tr>
<tr>
<td>Shibboleth</td>
<td>SAML</td>
</tr>
<tr>
<td>Direct Database queries</td>
<td>OpenDB / DDA</td>
</tr>
</tbody>
</table>
Activity 2:  
*Learn Integration, Building Blocks and Customisations*

Let's take a look at Activity 2 in the workbook.
1. Learn SaaS Overview
2. Requirements Gathering
3. Integrations, B2s and Customisations
4. Migration Planning
5. Post Migration
Considerations

• Internal resourcing (networks, other IT departments, support, PMO)
• Institutional Process (CAB, Security, L&T Committee, etc)
• Project Boards
• Resourcing & Capability Gaps
• Comms
Activity 3: Migration Planning

Let's take a look at Activity 2 in the workbook.

Consider the aspects of an Enterprise System upgrade or migration at your institution.

What resources do you need to be successful?

What approval processes are required?
Migration Planning – Communication plan

• Create your comms plan!

• Setup an website that provides all the information on the project, the timelines, outages and set expectations.

• Continual messaging

• Blackboard support with free resources!
  – Customer Sites
  – Communication & Adoption Toolkit
  – Cohorts and Customer Success Programs
Example Full System Migration Time Plan

- **Phase 1-1**
  - Env. setup
  - Prerequisites

- **Phase 1-2**
  - Testing Migration

- **Phase 1-3**
  - Configuration, Customizing and Testing

- **Phase 2**
  - Live Cutover

- **Phase 3**
  - Go live

**Weeks:**
- Week 1: Contract Closed
- Week 2: Client kick-off call
- Week 3: Ready for testing migration
- Week 4: Go/No-Go decision
- Week 5: Go live

**Milestones:**
- **Milestone 1**
- **Milestone 2**
- **Milestone 3**
## Migration Plan

### Phases

<table>
<thead>
<tr>
<th>No.</th>
<th>Phases</th>
<th>Owner</th>
<th>Start</th>
<th>End</th>
<th>% Done</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Kickoff Call</td>
<td>B/Ab</td>
<td>8-Oct-00</td>
<td>8-Oct-00</td>
<td>0%</td>
</tr>
<tr>
<td>02</td>
<td>Test Migration</td>
<td>Ab</td>
<td>22-Oct-00</td>
<td>9-Nov-00</td>
<td>0%</td>
</tr>
<tr>
<td>03</td>
<td>Testing &amp; Configuration</td>
<td>A/Ab</td>
<td>12-Nov-00</td>
<td>7-Dec-00</td>
<td>0%</td>
</tr>
<tr>
<td>04</td>
<td>Go/No-go Call</td>
<td>B/Ab</td>
<td>10-Dec-00</td>
<td>10-Dec-00</td>
<td>0%</td>
</tr>
<tr>
<td>05</td>
<td>Live Migration</td>
<td>Ab</td>
<td>24-Dec-00</td>
<td>27-Dec-00</td>
<td>0%</td>
</tr>
<tr>
<td>06</td>
<td>Go-live</td>
<td>Ab</td>
<td>31-Dec-00</td>
<td>31-Dec-00</td>
<td>0%</td>
</tr>
<tr>
<td>07</td>
<td>Close-out / Review</td>
<td>B/Ab</td>
<td>14-Jan-01</td>
<td>14-Jan-01</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Gantt Chart

#### Table 1: Client Name MI⊃SaaS DB Migration

<table>
<thead>
<tr>
<th>No.</th>
<th>Project Task</th>
<th>Start Date</th>
<th>End Date</th>
<th>Duration (days)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>SaaS Environment Setup</td>
<td>Monday, 5 February 2018</td>
<td>Thursday, 15 November 2018</td>
<td>283</td>
<td></td>
</tr>
<tr>
<td>1.01</td>
<td>Deploy Production Service</td>
<td>Monday, 5 February 2018</td>
<td>Friday, 2 November 2018</td>
<td>1</td>
<td>Not Started</td>
</tr>
<tr>
<td>1.02</td>
<td>Deploy Stage service</td>
<td>Monday, 12 November 2018</td>
<td>Tuesday, 13 November 2018</td>
<td>1</td>
<td>Not Started</td>
</tr>
<tr>
<td>1.03</td>
<td>Deploy DDA Service</td>
<td>Monday, 12 November 2018</td>
<td>Tuesday, 13 November 2018</td>
<td>1</td>
<td>Not Started</td>
</tr>
<tr>
<td>1.04</td>
<td>Configure DNS for Stage</td>
<td>Tuesday, 13 November 2018</td>
<td>Wednesday, 14 November 2018</td>
<td>1</td>
<td>Not Started</td>
</tr>
<tr>
<td>1.05</td>
<td>Purchase SSL Certificate for application domains</td>
<td>Wednesday, 21 February 2018</td>
<td>Wednesday, 5 September 2018</td>
<td>196</td>
<td>Completed</td>
</tr>
<tr>
<td>1.06</td>
<td>Find SSL request email and approve the certificate purchase</td>
<td>Wednesday, 5 September 2018</td>
<td>Thursday, 6 September 2018</td>
<td>1</td>
<td>Completed</td>
</tr>
<tr>
<td>1.07</td>
<td>Confirm receipt of SSL Certificate from vendor</td>
<td>Thursday, 5 September 2018</td>
<td>Friday, 7 September 2018</td>
<td>1</td>
<td>Completed</td>
</tr>
<tr>
<td>1.08</td>
<td>Change URL for Stage</td>
<td>Wednesday, 14 November 2018</td>
<td>Thursday, 15 November 2018</td>
<td>1</td>
<td>Not Started</td>
</tr>
<tr>
<td>1.09</td>
<td>Apply SSL to Stage</td>
<td>Wednesday, 14 November 2018</td>
<td>Thursday, 15 November 2018</td>
<td>1</td>
<td>Not Started</td>
</tr>
<tr>
<td>1.10</td>
<td>Remove source no longer required</td>
<td>Monday, 5 February 2018</td>
<td>Monday, 8 August 2018</td>
<td>184</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>1.11</td>
<td>Identify B2s not required in SaaS</td>
<td>Monday, 5 February 2018</td>
<td>Monday, 18 June 2018</td>
<td>133</td>
<td>Completed</td>
</tr>
<tr>
<td>1.12</td>
<td>Send information on what B2 data may not migrate</td>
<td>Monday, 18 June 2018</td>
<td>Tuesday, 19 June 2018</td>
<td>1</td>
<td>Completed</td>
</tr>
<tr>
<td>1.13</td>
<td>Install data gathering B2</td>
<td>Monday, 5 February 2018</td>
<td>Thursday, 7 June 2018</td>
<td>122</td>
<td>Completed</td>
</tr>
<tr>
<td>1.14</td>
<td>CD or FDQ?</td>
<td>Monday, 5 February 2018</td>
<td>Thursday, 31 May 2018</td>
<td>115</td>
<td>Completed</td>
</tr>
<tr>
<td>1.15</td>
<td>Provide IP addresses to connect to DDA</td>
<td>Monday, 5 February 2018</td>
<td>Thursday, 2 August 2018</td>
<td>178</td>
<td>Completed</td>
</tr>
<tr>
<td>1.16</td>
<td>Create EasySoft migration plan</td>
<td>Monday, 5 February 2018</td>
<td>Thursday, 21 June 2018</td>
<td>136</td>
<td>Completed</td>
</tr>
</tbody>
</table>
1. Learn SaaS Overview
2. Requirements Gathering
3. Integrations, B2s and Customisations
4. Migration Planning
5. Post Migration
Life after the migration

Changes to service delivery
• Integration Changes (SIS Integration v Snapshot)
• Managing the new release model
  – Changes to testing process
  – Changes to end-user communications

Gateway to Ultra
• Look at enabling Ultra Base Nav
• Educator awareness and workshops
  – Bb Customer Success workshops
  – Ultra adoption cohorts
Discussion:

• What are some other thoughts and ideas around post migration activities?
Service to support you Plan and Prepare your migration

**Academic Technology Planning**
- uncover LMS usage and develop an effective plan for ongoing adoption.
- basic best practices and advisement on transitioning to SaaS
- planning for the continuous improvement cycles and the shift in focus to learner centricity

**Building Block Evaluation**
- evaluating custom building blocks and provide guidance on how to refactor them through new architectures

**SIS Integration Framework Mentoring**
- guidance on setting up SIS integrations
- assist with configuration and best practice considerations

**Extensibility with REST & LTI standards**
- Workshops and online training in adopting these standards for Learn
- best practice considerations