

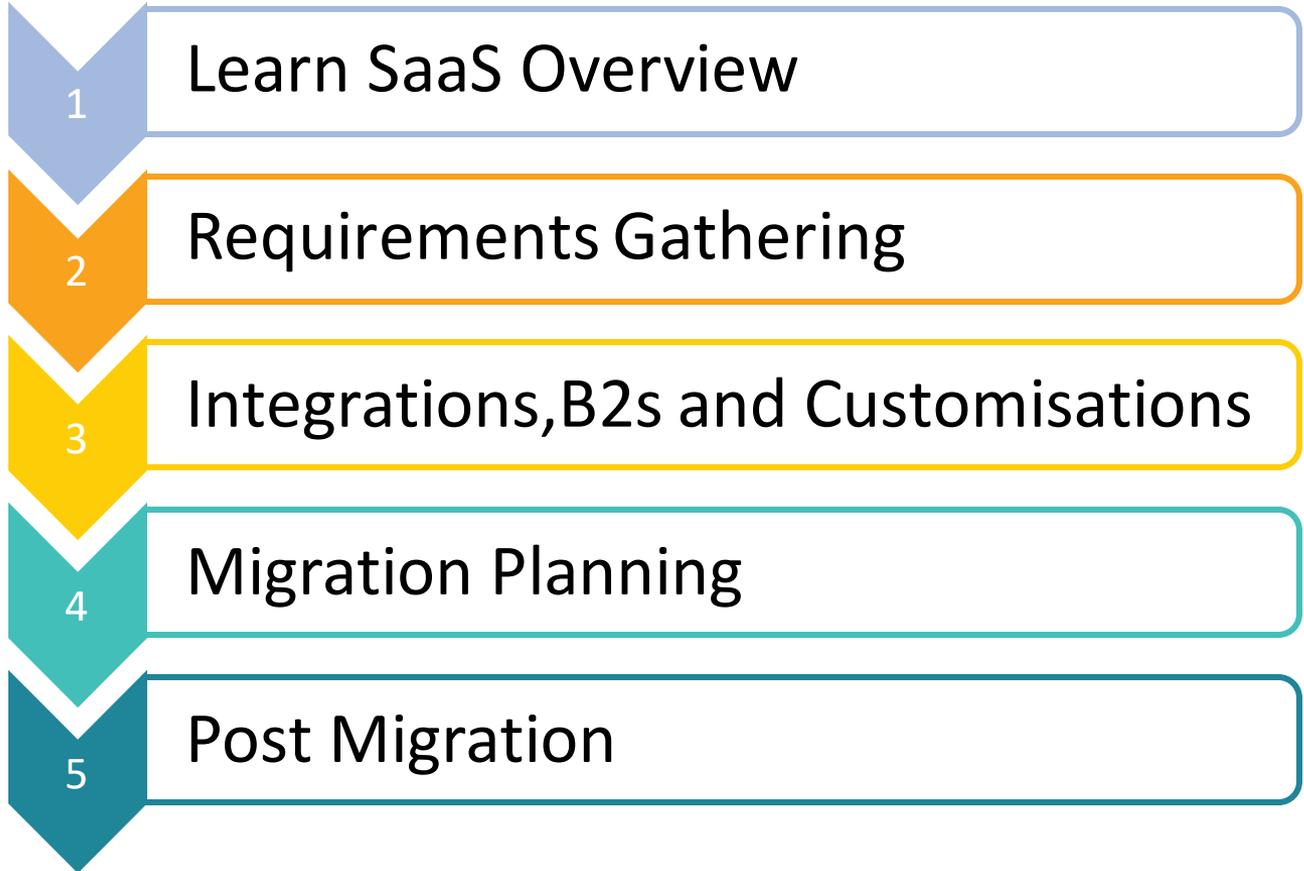
Blackboard

Path to Learn SaaS

2018



Topics



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Learn SaaS Overview

2

Requirements Gathering

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Integrations, B2s and Customisations

4

Migration Planning

5

Post Migration

What is Blackboard Learn SaaS?

Blackboard Learn delivered on a modern cloud computing technology stack in partnership with AWS



Updates with **zero** downtime



Single version, continuously updated, as well as a flexible deployment option



Multiple tiers (Plus, Advantage) to support different levels of service and customization

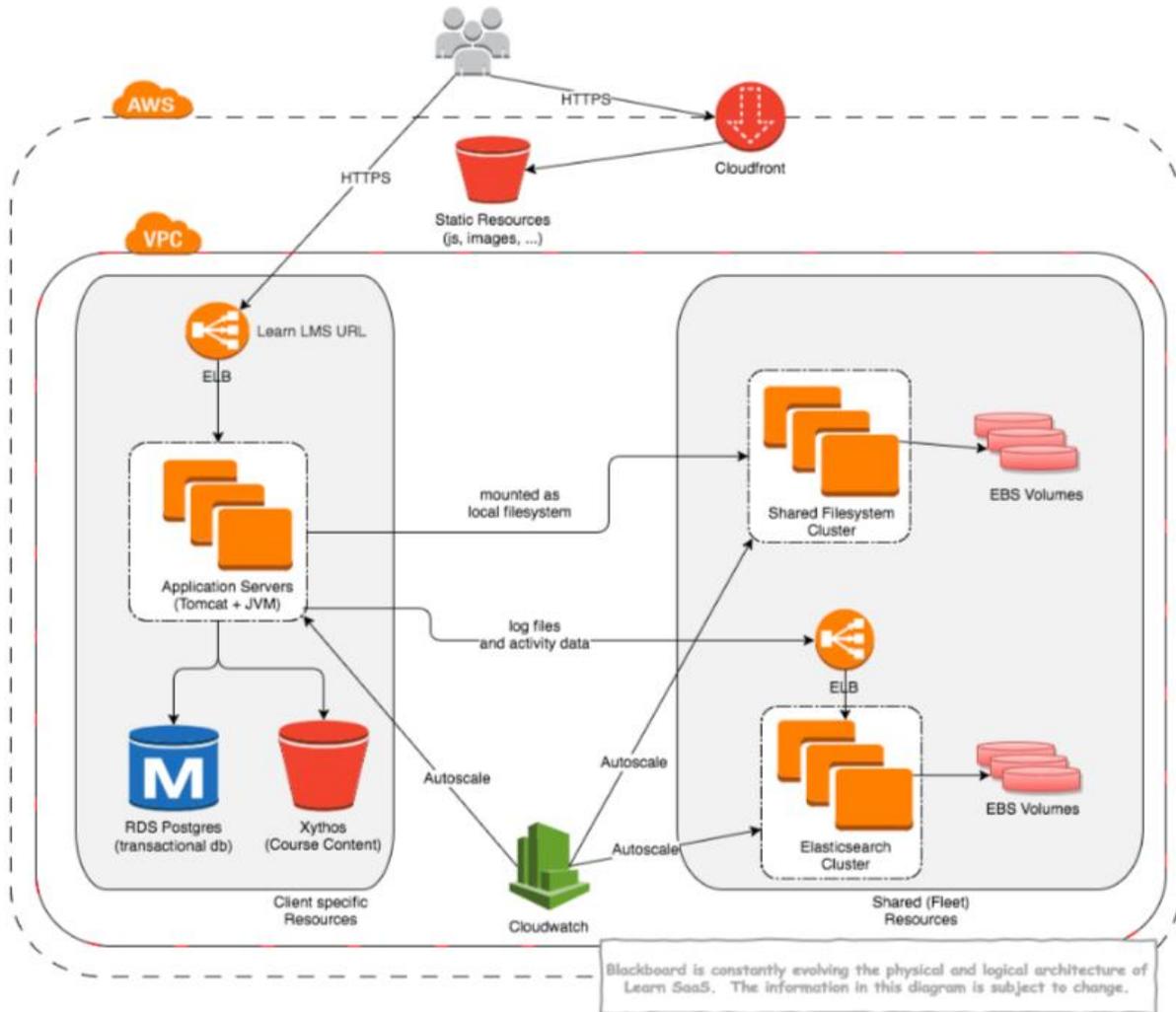


By default: The Original experience familiar to your students and faculty from Learn 9.1



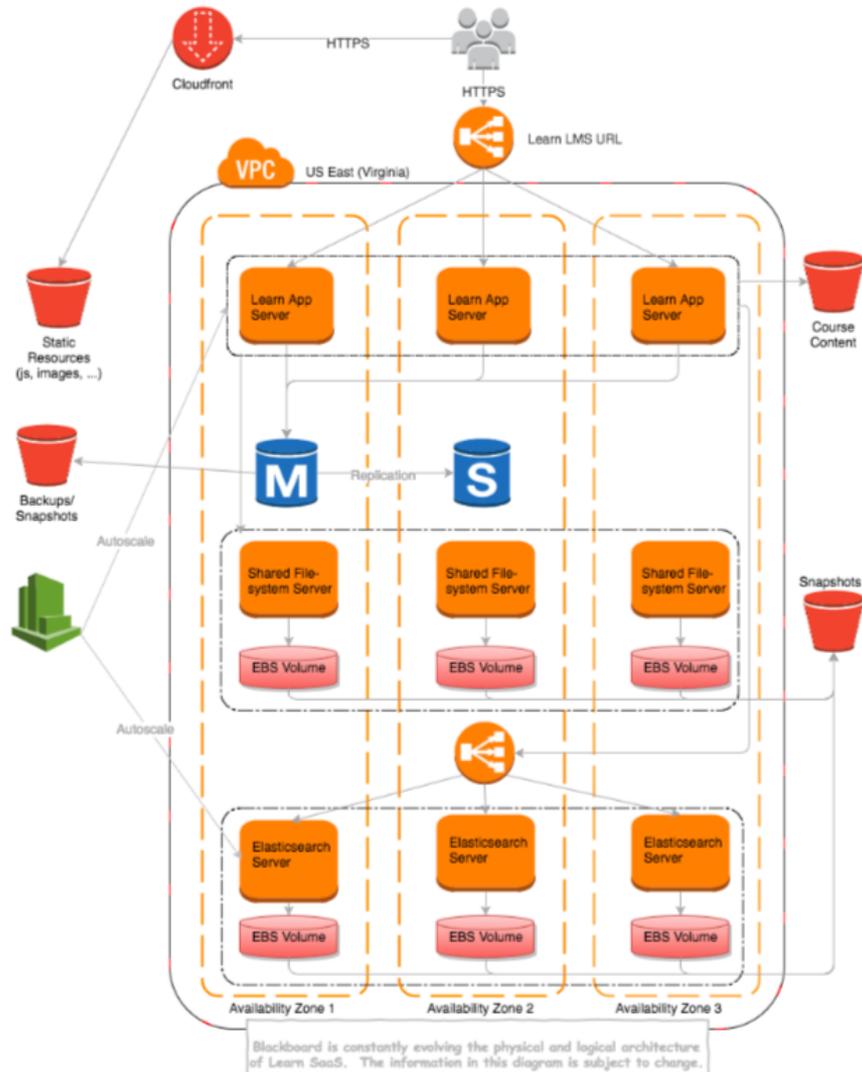
Option to enable the Ultra experience that provides a modern, intuitive, fully responsive user interface





Blackboard is constantly evolving the physical and logical architecture of Learn SaaS. The information in this diagram is subject to change.





Blackboard is constantly evolving the physical and logical architecture of Learn Soc5. 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

aws  competency



* Partially migrated / active migrations

What you need to know about moving to Blackboard Learn SaaS

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.

To be able to use Ultra, a move to SaaS is required

The move to SaaS takes approx. 4-6 months

Smaller and more frequent updates, without downtime (CDO)

Blackboard works in partnership with Amazon (AWS)

Our SaaS datacenter is in Sydney

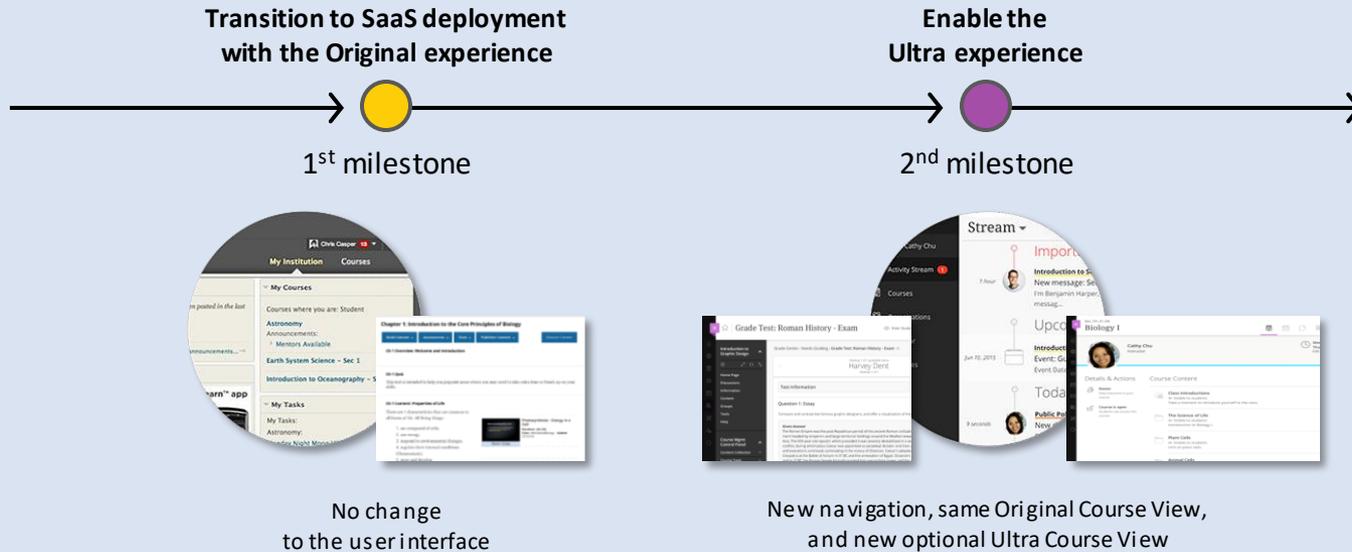
What are the tiers of SaaS Deployment

	Plus	Advantage
Availability SLA	99.9%	99.9%
Base Storage	1TB	1TB
User Interface Options	Original (9.1) OR Ultra Experience	Original (9.1) OR Ultra Experience
Release Cycle	Continuous OR Flexible Deployment option	Continuous OR Flexible Deployment option
Support Learning Solutions	Full Suite	Full Suite

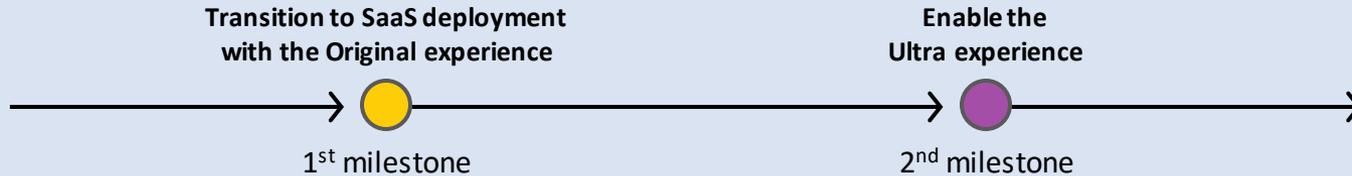
What are the tiers of SaaS Deployment

	Plus	Advantage
Building Block Support	Full Support	Full Support
LTI, WebServices and REST API Support	✓	✓
Test Instance	✓	✓
Staging Instance	Optional add-on	✓
Direct Data Access	Optional add-on	✓
Service Delivery Management		✓

Two Milestones: SaaS Deployment & the Ultra experience



Two Milestones: SaaS Deployment & the Ultra experience



- 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

- 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

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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?	<input type="checkbox"/> Yes
<i>if you answered no, leave the remaining questions in this section blank</i>	
Desired dates for the migration project	Start / End Date
Target go-live date for the Learn Hosting/SaaS environment:	Faculty / Students
Start/End Date of upcoming academic periods	1
	2
	3
<p>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 onfirmation of this date after the information in this questionairre has been reviewed. If the required dates conflict with this,pleas speak directly with your account manager.</p>	
Migration Specifics	
Desired Migration Type?	Full System
Desired Learn SaaS Release Cycle	Continuous Delivery (Latest Release)
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)	<input type="checkbox"/> Old Courses (Inactive) <input type="checkbox"/> Live Courses (in session) <input type="checkbox"/> New courses for future terms <input type="checkbox"/> Users <input type="checkbox"/> Enrolments
Desired URLs for your Learn SaaS Environments	Production https:// Test https:// Staging (if applicable) https://
Will you manage SSL certificates for these URLs?	<input type="checkbox"/> *Not applicable for Learn SaaS
Migration Pre-requisites Plan	
Current Learn Production Version	Min SaaS Version
<p>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.</p>	3400.5.0-rel.12+393c117
Document plans for completing migration pre-requisites.	Stage / Date
Upgrade to fully support version	
<p> About and Contacts Information and Decisions Req. Building Blocks SIS Integrations Authentication REST S </p>	

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?

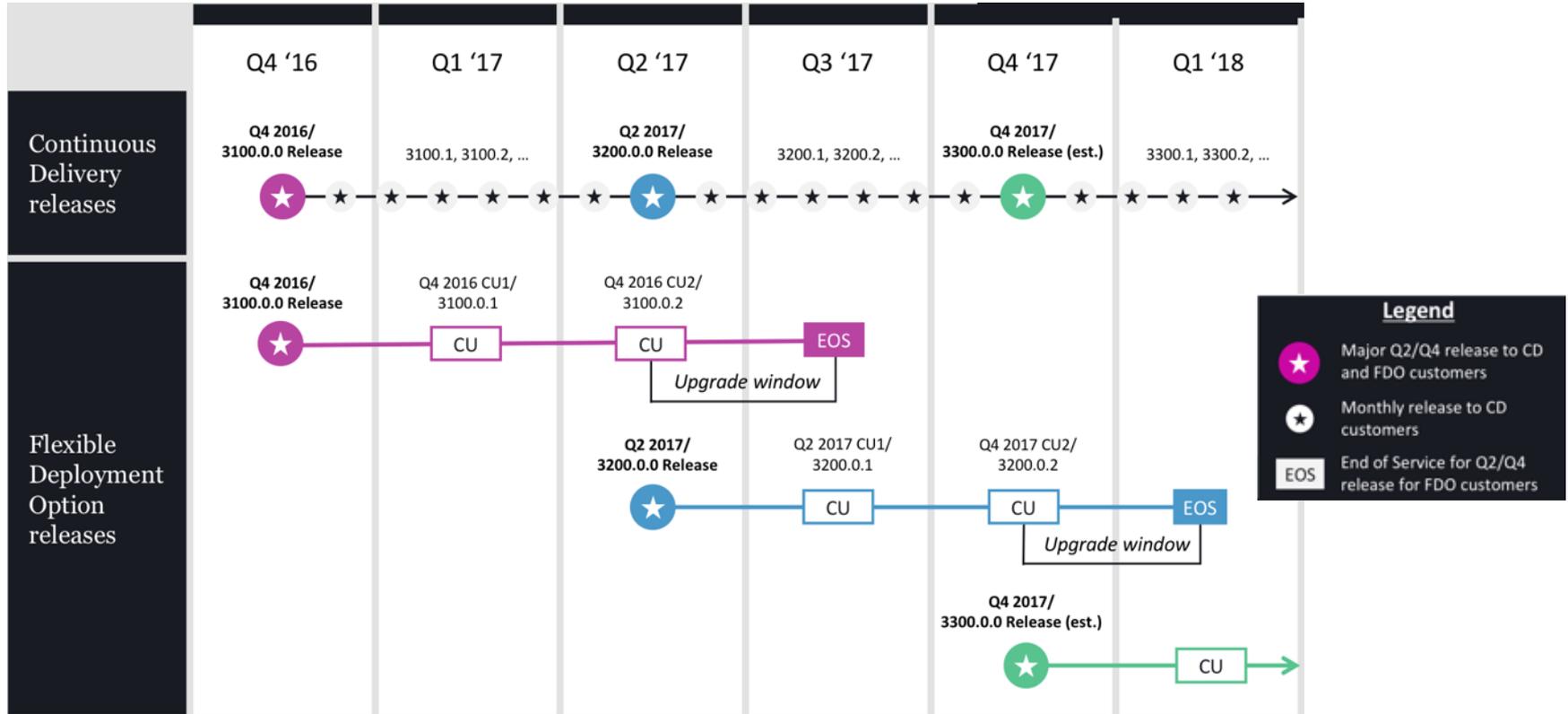
Continuous Delivery (CD)

- 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 Option (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*

Lets take a look at Activity 1 in the workbook.

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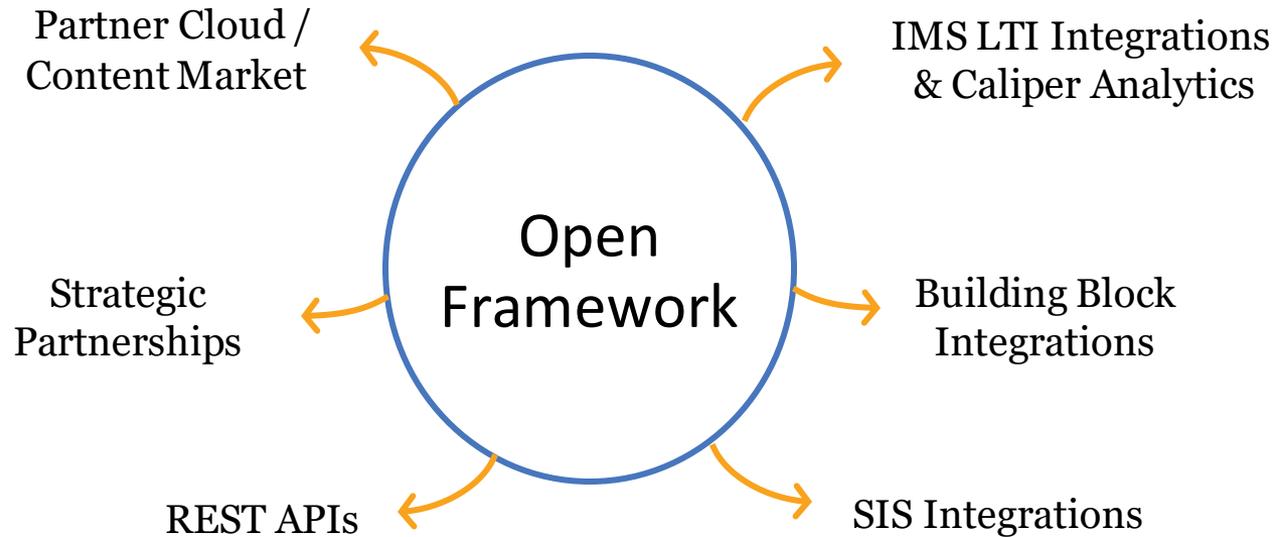
So I heard building blocks are going away?

- 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

Technology Considerations – B2, LTI / Web Services

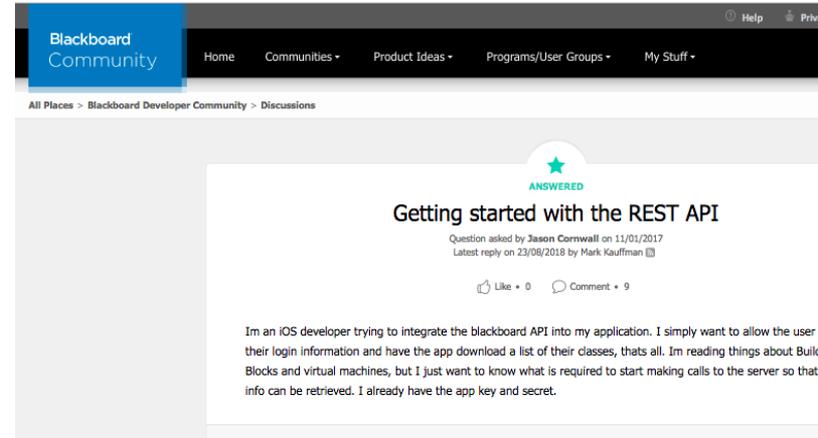
Learn		SH/MH (Self-Hosted / Managed-Hosting)			SAAS						
		ORIGINAL EXPERIENCE			ORIGINAL EXPERIENCE (ULTRA DISABLED)			ULTRA ENABLED			
		TAB AND MODULE PAGES	COURSES	ADMIN	TAB AND MODULE PAGES	COURSES	ADMIN	INSTITUTION PAGE	COURSES		ADMIN
ORIGINAL EXPERIENCE	ULTRA										
B2 that uses	SOAP WS	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓
	API JAVA	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓
	REST API	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓
LTI that uses	SOAP WS	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓
	REST API	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
External App	REST API	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Open to integrate, to extend, to access your data

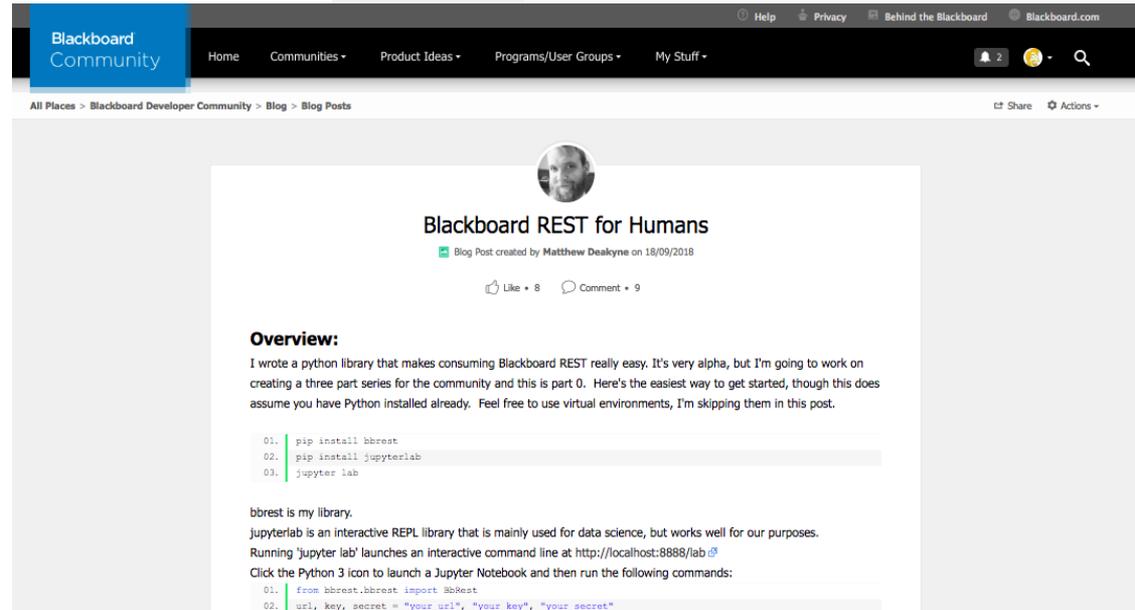


Supporting Resources

- IMS Github Code: <https://github.com/IMSGlobal/>
- Bb Developer Code: <https://github.com/blackboard>
- Bb Community Site:
<https://community.blackboard.com>



The screenshot shows a Blackboard Community discussion page. The header includes the Blackboard Community logo and navigation links for Home, Communities, Product Ideas, Programs/User Groups, and My Stuff. The breadcrumb trail reads "All Places > Blackboard Developer Community > Discussions". The main content area features a post titled "Getting started with the REST API" marked as "ANSWERED". The post was asked by Jason Cornwall on 11/01/2017 and has a latest reply from Mark Kauffman on 23/08/2018. It shows 0 likes and 9 comments. The text of the post describes an iOS developer's challenge in integrating the Blackboard API.



The screenshot shows a Blackboard Community blog post. The header includes the Blackboard Community logo and navigation links for Home, Communities, Product Ideas, Programs/User Groups, and My Stuff. The breadcrumb trail reads "All Places > Blackboard Developer Community > Blog > Blog Posts". The main content area features a post titled "Blackboard REST for Humans" by Matthew Deakne, dated 18/09/2018. It shows 6 likes and 9 comments. The post includes an "Overview" section where the author describes a Python library for consuming Blackboard REST. It includes code snippets for installing the library and running Jupyter Lab.

```
01. pip install bbrest
02. pip install jupyterlab
03. jupyter lab
```

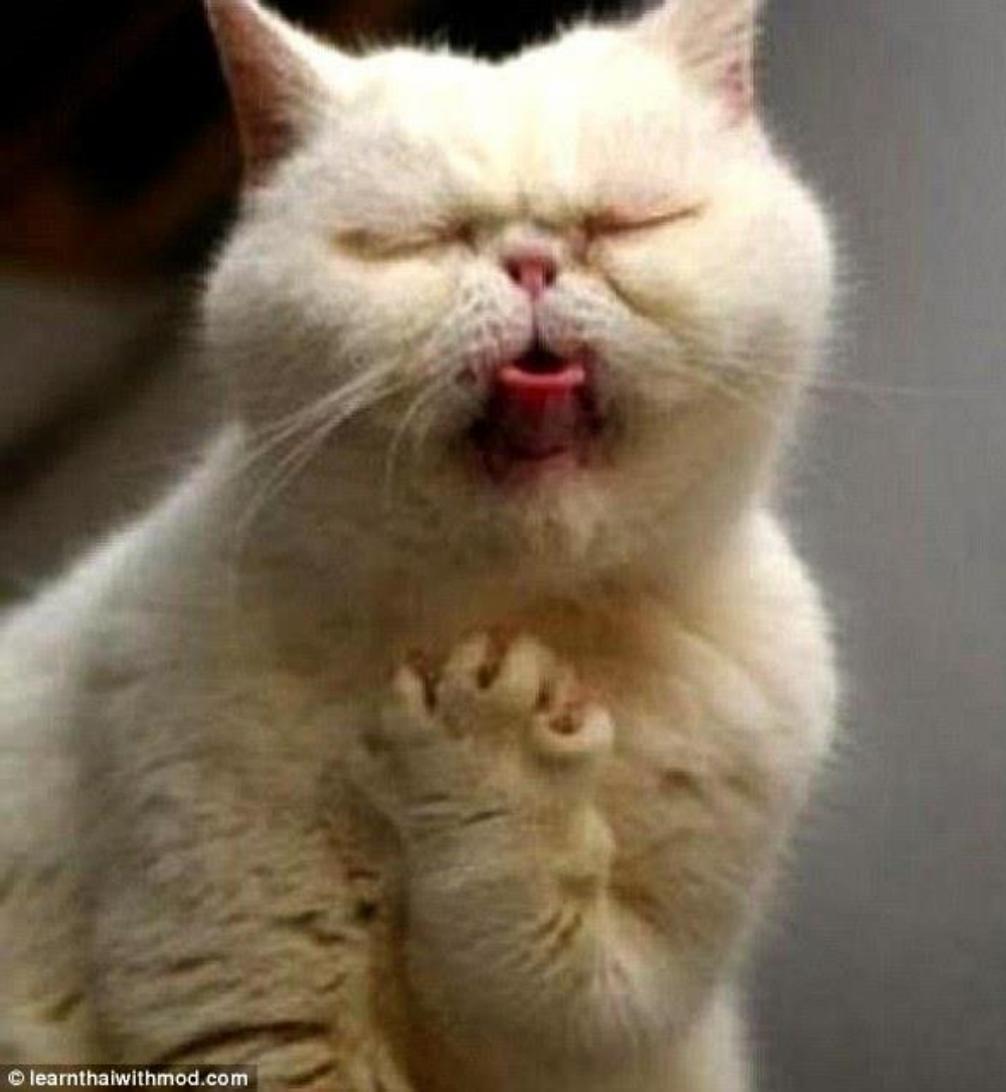
```
01. from bbrest.bbrest import BBRest
02. url, key, secret = "your url", "your key", "your secret"
```

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

Command line Snapshot (CLS)		SIS Framework / REST API
SOAP Web Services		REST API
Custom Themes		Custom Themes (9.1 SaaS)
Custom login page		Custom login page
Shibboleth		SAML
Direct Database queries		OpenDB / DDA



Activity 2:

Learn Integration, Building Blocks and Customisations

Lets take a look at Activity 2 in the workbook.

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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*

Lets 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?

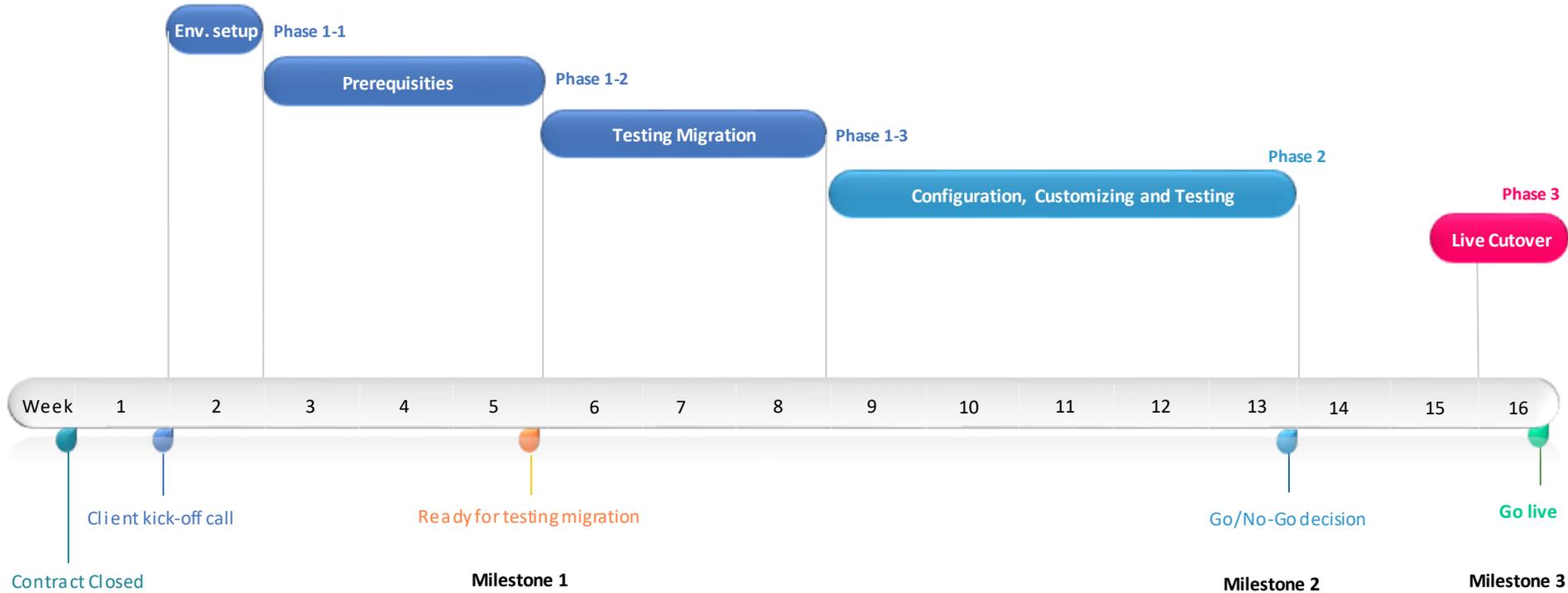
What approval processes are required?

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
(<http://bit.ly/learnsaascommkit>)
 - Cohorts and Customer Success Programs



Example Full System Migration Time Plan



Migration Plan

	Phases	Planned Dates			%	Gantt Chart																											
		Owner	Start	End		week:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
		(Primary)	Date	Date		Done	w/c:	8-Oct	15-Oct	22-Oct	29-Oct	5-Nov	12-Nov	19-Nov	26-Nov	3-Dec	10-Dec	17-Dec	24-Dec	31-Dec	7-Jan	14-Jan	21-Jan	28-Jan	4-Feb	11-Feb	18-Feb	25-Feb	4-Mar	11-Mar	18-Mar	25-Mar	1-Apr
01	Kickoff Call	Bb/<Abr>	8-Oct-00	n/a	0%																												
02	Test Migration	Bb	22-Oct-00	9-Nov-00	0%																												
03	Testing & Configuration	<Abr>	12-Nov-00	7-Dec-00	0%																												
04	Go/No-go Call	Bb/<Abr>	10-Dec-00	n/a	0%																												
05	Live Migration	Bb	24-Dec-00	27-Dec-00	0%																												
06	Go-live	Bb	31-Dec-00	n/a	0%																												
07	Close-out / Review	Bb/<Abr>	14-Jan-01	n/a	0%																												

Client Name MH>SaaS DB Migration

Target date: 2018-12-31

		Start Date	End Date	Duration (days)		
		Overall Project Duration:		Monday, 5 February 2018	Monday, 12 November 2018	280
No.	Project Task	Start Date	End Date	Duration(days)	Status	
Phase I	Setup	Monday, 5 February 2018	Thursday, 15 November 2018	283		
1.00	SaaS Environment Setup	Monday, 5 February 2018	Thursday, 15 November 2018	283		
1.01	Deploy Production Service	Friday, 2 November 2018	Saturday, 3 November 2018	1	Not Started	
1.02	Deploy Stage Service	Monday, 12 November 2018	Tuesday, 13 November 2018	1	Not Started	
1.03	Deploy DDA Service	Monday, 12 November 2018	Tuesday, 13 November 2018	1	Not Started	
1.04	Configure DNS for Stage	Tuesday, 13 November 2018	Wednesday, 14 November 2018	1	Not Started	
1.05	Purchase SSL Certificate for application domains	Wednesday, 21 February 2018	Wednesday, 5 September 2018	196	Completed	
1.06	Find SSL request email and approve the certificate purchase	Wednesday, 5 September 2018	Thursday, 6 September 2018	1	Completed	
1.07	Confirm receipt of SSL certificate from vendor	Thursday, 6 September 2018	Friday, 7 September 2018	1	Completed	
1.08	Change URL for Stage	Wednesday, 14 November 2018	Thursday, 15 November 2018	1	Not Started	
1.09	Apply SSL to Stage	Wednesday, 14 November 2018	Thursday, 15 November 2018	1	Not Started	
1.10	Remove courses no longer required	Monday, 5 February 2018	Wednesday, 8 August 2018	184	Not Applicab	
1.11	Identify B2s not required in SaaS	Monday, 5 February 2018	Monday, 18 June 2018	133	Completed	
1.12	Send information on what B2 data may not migrate	Monday, 18 June 2018	Tuesday, 19 June 2018	1	Completed	
1.13	Install data gathering B2	Monday, 5 February 2018	Thursday, 7 June 2018	122	Completed	
1.14	CD or FDO?	Monday, 5 February 2018	Thursday, 31 May 2018	115	Completed	
1.15	Provide IP addresses to connect to DDA	Monday, 5 February 2018	Thursday, 2 August 2018	178	Completed	
1.16	Create EasySoft migration plan	Monday, 5 February 2018	Thursday, 21 June 2018	136	Completed	

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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

Blackboard®