



Modernization Focus: Student Images

A look into our journey towards a well-architected system



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Agenda

- 1** Aeries Modernization Philosophy
- 2** Modernizing Student Photos
- 3** Looking Ahead



01. Aeries Modernization Philosophy

*Let's talk about the modernization approach and
its impact on student success.*

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It's All About Student Success

Data Safety

Compliance with National Institute of Standards and Technology [NIST] and a partnership with AWS demands continuous evaluation and response to ever-evolving threats.

High Availability

Student Success demands Operational Excellence from our system. Even in high-demand periods, the system needs to be available and performant.

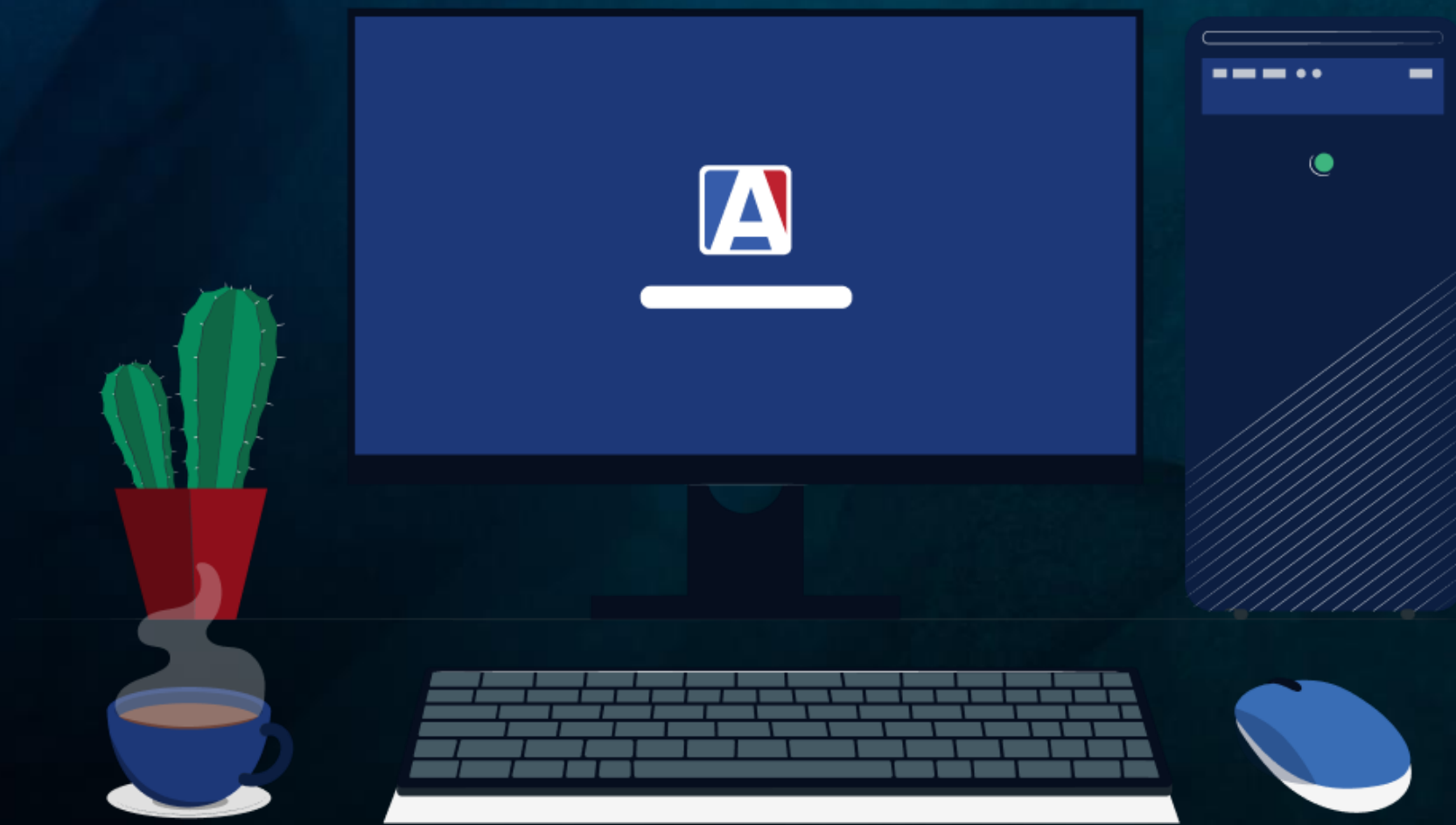
Promote Agility

The system must be ready to leverage emerging technology and operate efficiently to allow schools to focus on student success.



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Rich Domain Knowledge + Modern Architecture



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Focus of AWS Well-Architected Framework

Operational Excellence

Running and monitoring systems and continually improving processes and procedures.

Security

Protecting information and systems.

Reliability

Workloads performing their intended functions and how to recover quickly from failure to meet demands.

Performance Efficiency

Structure and streamlined allocation of IT and computing resources.

Cost Optimization

Avoiding unnecessary costs.

Sustainability

Minimizing the environmental impacts of running cloud workloads.



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02. Modernizing Student Photos

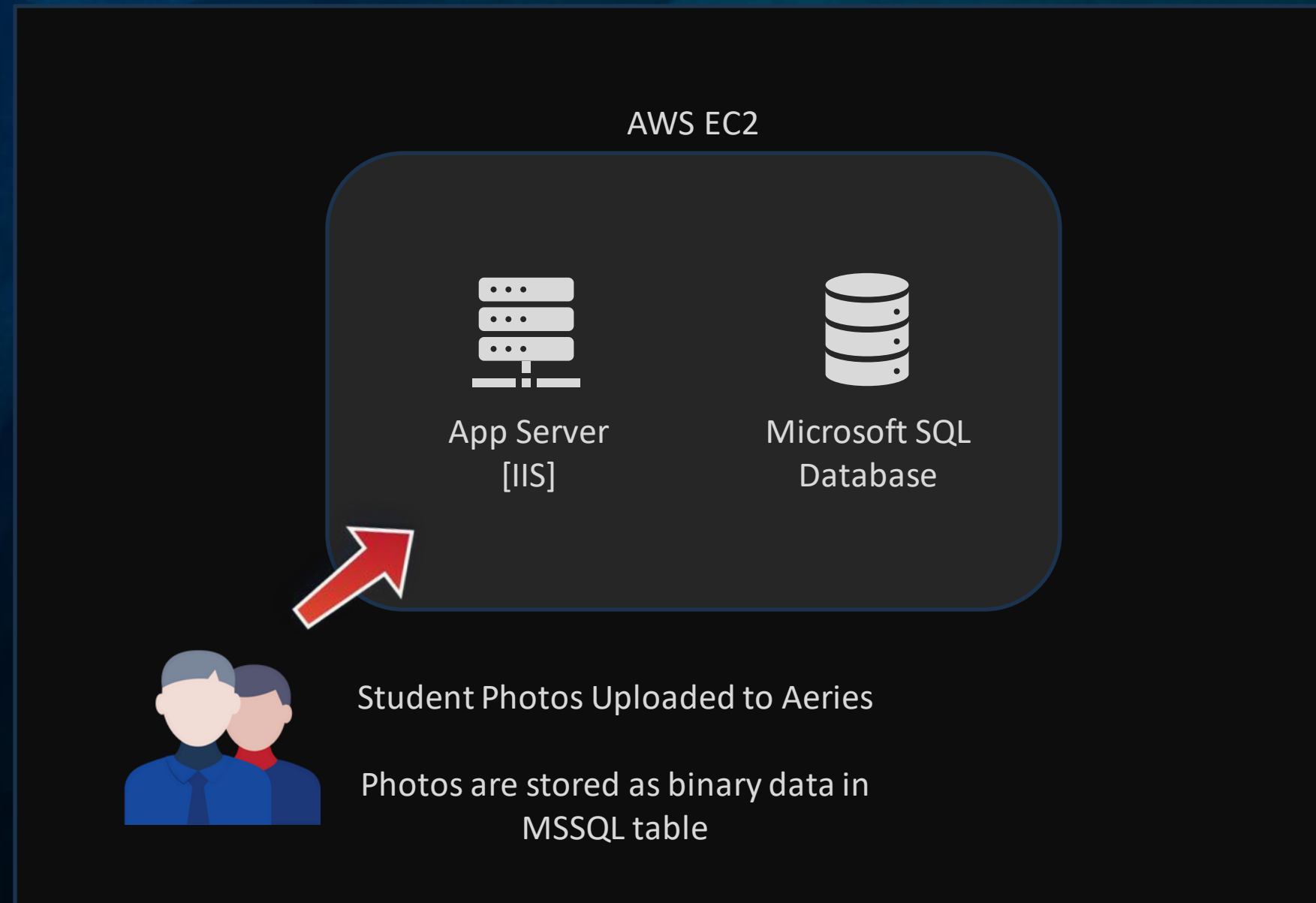
A look at the first steps in the modernization of Aeries

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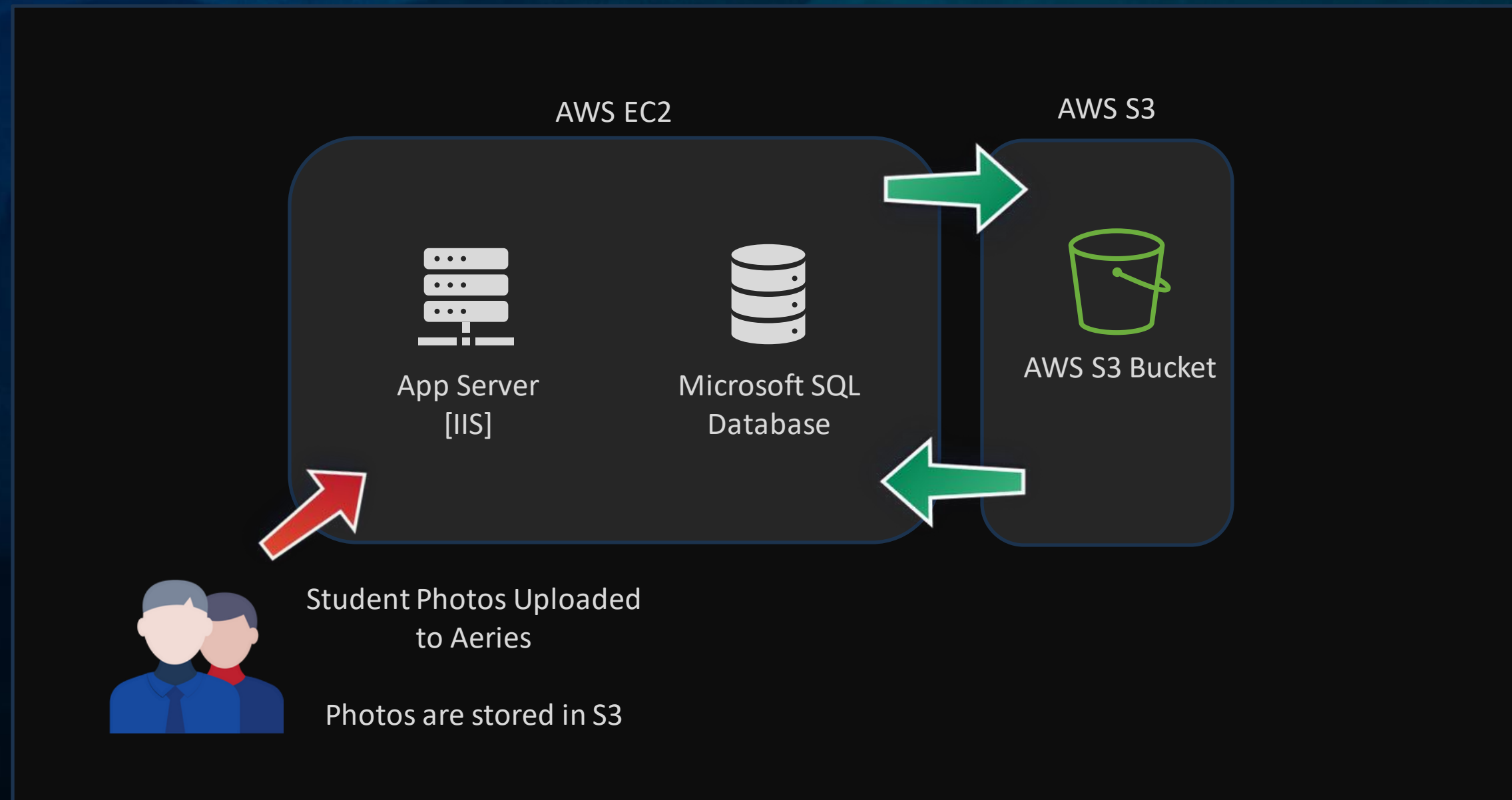


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Existing Solution



Modernized Solution



Before

SQLQuery2.sql - SQ...GLE\michaelc (55)*
/***** Script for SelectTopNRows command from SMS *****/
SELECT TOP (1000) [ID]
 ,[YR]
 ,[RB]
 ,[XT]
 ,[SZ]
 ,[TH]
 ,[SM]
 ,[MD]
 ,[LG]
 ,[XL]
 ,[DEL]
 ,[DTS]
FROM [DST22000MichaelCTest_CA].[dbo].[PIC]

	ID	YR	RB	XT	SZ	TH
1	75500001	2020	0xFFD8FFE000104A46494600010100000100010000FFDB00...	jpg	424861	0xFFD8FFE000104A46494600010101006000600000FFDB00...
2	75500002	2020	0xFFD8FFE000104A46494600010100000100010000FFDB00...	jpg	400442	NULL
3	75500005	2020	0xFFD8FFE000104A46494600010100000100010000FFDB00...	jpg	453854	NULL
4	75500006	2020	0xFFD8FFE000104A46494600010100000100010000FFDB00...	jpg	366257	NULL
5	88400001	2020	0xFFD8FFE000104A46494600010100000100010000FFDB00...	jpg	418054	0xFFD8FFE000104A46494600010101006000600000FFDB00...
6	88400002	2020	0xFFD8FFE000104A46494600010100000100010000FFDB00...	jpg	404505	NULL
7	88400003	2020	0xFFD8FFE000104A46494600010100000100010000FFDB00...	jpg	450175	NULL

After

Images are organized into paths:
{StudentPrimaryKey}/extralarge
{StudentPrimaryKey}/large
{StudentPrimaryKey}/medium
{StudentPrimaryKey}/small
{StudentPrimaryKey}/thumbnail
Etc..

PIC Table is empty.

A “Plumbing” Modernization

- No change to user interface is required.
- Updates to backend will be released.
- “Mass Add” functionality will be updated.
- Sets the stage for similar updates.



AWS S3

Simple Storage Service (S3)

Object Storage Service from AWS

Offers industry-leading scalability, data availability, security and performance. Store and protect any amount of data for virtually any use case.

Cloud Native

S3 integrates with nearly every other AWS service, offering many solutions to Aeries for building a resilient and performant architecture.

Unmatched Security

Fine-tuned access controls provide a host of options for secure access. S3 buckets can be private, accessible only to customized roles and policies.



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Migrating Data

A utility for moving this data out of MSSQL into S3 is in active development.

More details on the release and migration of this data will be announced later this year.



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03. Looking Ahead

When can we expect to see this? What's next?

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On the Roadmap for Q4 2024



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Modernization Focus

Quality

The modernized feature must work as expected in a performant manner with a high degree of predictability, even when under unpredictably high demand.

Security

Data must be kept safe. Security must be continuously evaluated, proactively protecting against ever-evolving threats.

Transition/Migration

Customers have built entire ecosystems around Aeries. Any modernization must include a clear migration path communicated in a timely manner.



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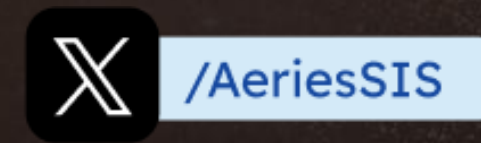
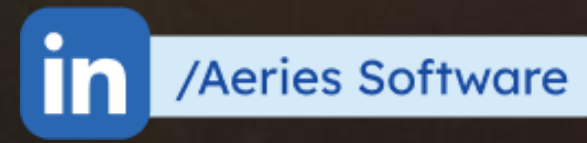
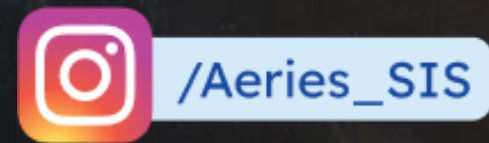
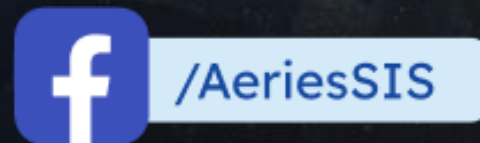
Recap:

“Student pictures” presents an opportunity for modernization of underlying infrastructure, creating further modernization opportunities.

- This is just one small step towards a cloud-native architecture. S3 immediately provides scalability, reliability, and security.
- Each feature will undergo its own analysis on how best to be modernized and which AWS technologies can be leveraged.
- No user interface update is required for this modernization. It is focused on “plumbing”.
- Standards such as NIST and AWS Well Architected Framework are guiding the modernization of Aeries
- We’re modernizing our own internal processes and systems along with features of the SIS.



THANK YOU!



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Share your Feedback:



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