NorthBay

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Data Platform Accelerators For Higher Education
From NorthBay and AWS

IT leaders in higher education institutions know that centralizing disparate data sources can unlock opportunities to make recruitment more efficient, students more successful, operations more sustainable, and alumni more engaged. However, even the most seasoned professional often struggles to get the approval they need to get started — or the widespread support and collaboration required to be successful.

Well-funded individual schools that make up large-scale research universities usually have their own analytics tools, operate autonomously, and want to safeguard their data rather than share it due to privacy and compliance concerns. As a result, IT leaders who want to develop a centralized data platform must:

- Prove to stakeholders that the shortcomings of siloed data far outweigh the benefits
- Demonstrate that their team has the experience needed to build a best-in-class higher education data platform in the AWS cloud
- Feel confident that operating the platform at scale won't overwhelm their central IT team

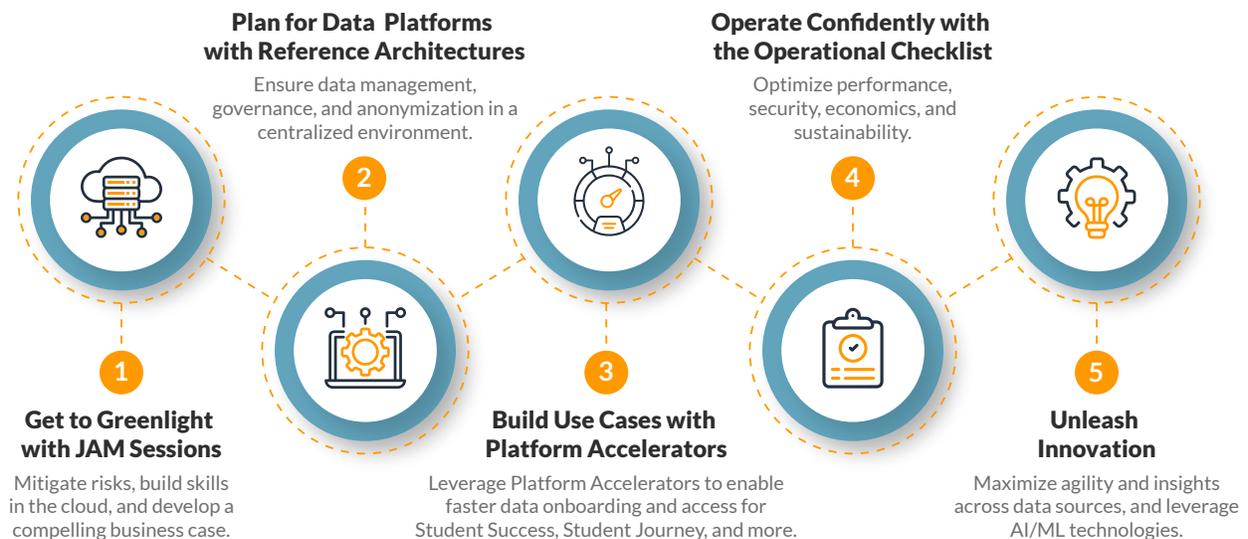## Data Platform JAM Sessions from NorthBay and AWS
Develop a rapid prototype in just 10 days.

Qualified schools are eligible for funding from AWS and NorthBay to offset a portion of this investment.
Learn more: info@northbaysolutions.com

Start and Scale with Speed and Ease

NorthBay Data Platform Accelerators are purpose-built to help higher education institutions realize ROI in weeks not months.

Plan for Data Platforms with Reference Architectures
Ensure data management, governance, and anonymization in a centralized environment.

Operate Confidently with the Operational Checklist
Optimize performance, security, economics, and sustainability.

1 Get to Greenlight with JAM Sessions
Mitigate risks, build skills in the cloud, and develop a compelling business case.

3 Build Use Cases with Platform Accelerators
Leverage Platform Accelerators to enable faster data onboarding and access for Student Success, Student Journey, and more.

5 Unleash Innovation
Maximize agility and insights across data sources, and leverage AI/ML technologies.

1 Get to Greenlight

Build a strawman data platform in just 10 days

NorthBay JAM Sessions are purpose-built to prove to university stakeholders that they can contribute to — and benefit from — a centralized data platform. In these 10-day immersive workshops, we build a prototype in your AWS account. Use your data to learn quickly, conduct POCs, identify and mitigate potential blockers, start the momentum, and gain confidence. Qualified schools are eligible for funding from AWS and NorthBay to offset a portion of this investment.

JAM Sessions ensure that:

- Stakeholders from across the university get involved early on — and become inspired to move forward
- IT teams build the clouds skills they need to succeed by working hand-in-hand with NorthBay architects and engineers
- Risks are identified and mitigated early on, and the data platform project is approved

2 Plan for Data Platforms

Enable data collaboration and democratization at scale

NorthBay and AWS Data Platform Reference Architectures facilitate:

- Planning for data management and governance across university silos
- Data source unification and anonymization for maximum collaboration
- Cross-institutional partnership to facilitate data sharing
- Detailed accelerator road maps, schedules, and task plans

3 Build Use Cases with Accelerated Time-to-Value

Realize ROI in weeks not months

NorthBay and AWS Data Platform Build Accelerators significantly speed up the time it takes to build your data platform, as well as onboard new data sources

- **Data Source Onboarding Framework:** Streamlines the process of onboarding on-premises data sources to the data platform for upstream integration
- **Ingestion Orchestrator Engine:** Provides centralized workflow orchestration, monitoring, and alerting to ensure operational excellence across all ingestion processes
- **Data Quality Engine:** Enables creation and application of generic and custom data quality rules to prevent bad data ingestion and data contamination across the data platform
- **Agile Delivery Framework:** Customizable best-practices blueprint built for developing data platforms for higher education

4 Operate with Confidence

Well-architected for operational excellence

Built on the six principles of the AWS Well Architected Framework, the NorthBay and AWS Data Platform Operations Checklist includes 150 mission-critical tasks to ensure that your centralized data platform runs as expected — whether with two data sets or two hundred.

- Monitor the health of the analytics pipeline, and automate error handling
- Meet performance SLAs and security requirements
- Measure workload usage for cost analysis and chargebacks

5 Unleash Innovation

Become a data and AI-driven organization

NorthBay and AWS engagements rarely end with the first data sources & reporting. We are here to help you:

- Build trust among technical and business users
- Move from Descriptive → Diagnostic → Predictive → Prescriptive Analytics
- Be on the frontline of emerging technologies including AI/ML and IoT use cases
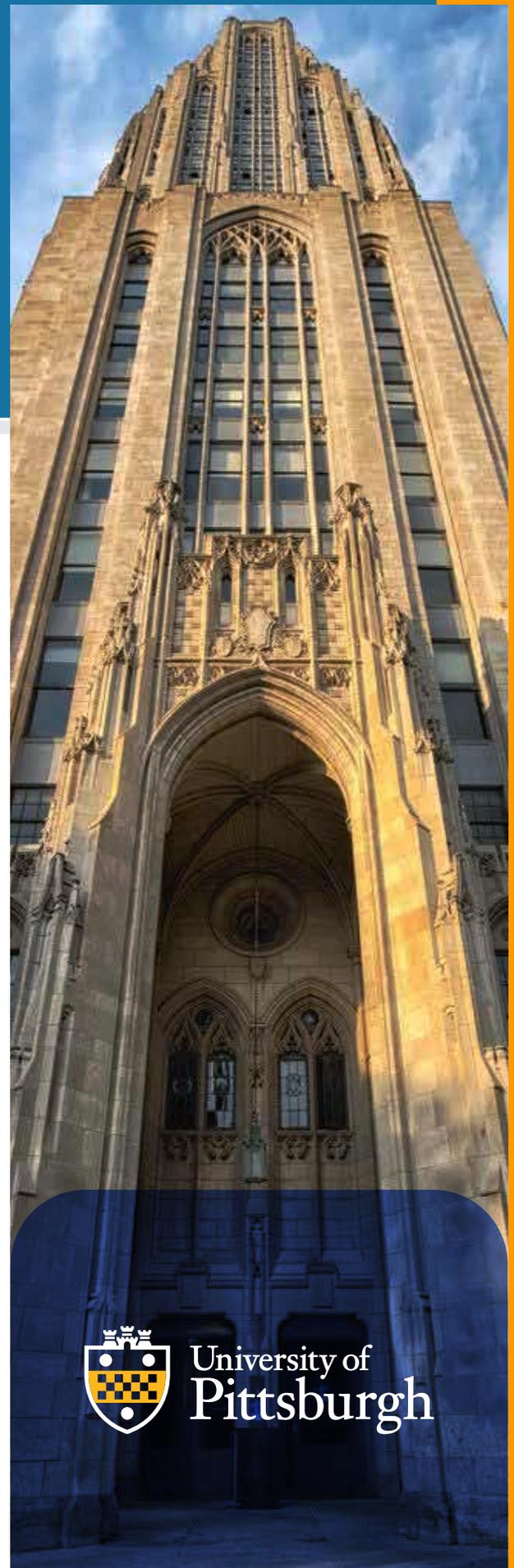
NorthBay and AWS @ Work:

Getting to Greenlight at the University of Pittsburgh

Chad Burton, Data Privacy Officer at the University of Pittsburgh, had a vision for using data to enhance student experience, identify and report on research grants, and even help prevent athlete injuries while improving team performance.

However, as is the case at many higher education institutions, the University of Pittsburgh had been slow to adopt the cloud, and their on-premises data warehouse was holding Chad back from realizing his vision. The data warehouse, and its overly rigid and cumbersome ingestion framework, were specifically designed for core ERP systems. Attempting to make rules changes and updates was a complex and time-consuming undertaking, and adding new data sets was a 6-9 month process. As a result, some of the larger, well-funded schools within the university had their own IT teams who kept their data siloed in their own systems.

Chad wanted to centralize disparate data in a data lake to enable sophisticated analytics and data science experiments, but was struggling to convince stakeholders that he could realize his vision. His team lacked the expertise to develop this type of sophisticated solution, and to get the project approved, he'd need to prove what he knew was possible.

As a first step, Chad reached out to leading public cloud providers for insights on how to overcome the obstacles around budget, timing, skills, and stakeholder alignment that were preventing them from executing their vision. Excited by the opportunity to help a prestigious university leader succeed where others failed, AWS connected Chad with NorthBay Solutions — an AWS Premiere Consulting Partner with a blueprint purpose-built for overcoming the obstacles common in university settings.

Maximizing the Value of
Data Moving Forward

JAM Session:
A Catalyst for Change

Since the Jam Session, the University of Pittsburgh and NorthBay have partnered to build a robust data universe. With a fully functioning data platform, the teams are ready to start showing stakeholders the true potential of the insights buried in the data. Chad's team will enable hundreds of users to access the platform and utilize Tableau to analyze the data and create reports on-demand, rather than waiting months for the team to write a query.

Planned use cases include:

- Integrating SFDC, Peoplesoft, and other student and staff data sources to enable more accurate, timely, and flexible reporting in order to drive both financial and operational efficiencies

- Improving student experience, retention, and success by making it easier to learn about local student interest events based on major, class history, and previous event attendance

- Integrating a financial data set for the Office of Sponsored Programs, which is responsible for assisting faculty, staff, and students in their efforts to promote and secure sponsored research funding

What's even more exciting is that with a faster and easier data ingestion process, Chad could realize his goal of making a new data set accessible to stakeholders in a few weeks rather than 6-9 months. As the team continues to mature the data platform, they are already in discussions with key university departments — such as athletics — about opportunities to use the power of machine learning to affect meaningful change. For example, athletes would wear IoT devices to collect and track body movements and physiology. Detailed metrics, video and other interactive tools, all connected to the cloud, would produce massive amounts of data that the team could then develop and train machine learning models that analyze and mine the data for insights which physicians and coaches could use to increase student athletic performance and predict and prevent injuries.

NorthBay's JAM Session, which is designed to prove to stakeholders that they can contribute to — and benefit from — a centralized data platform, proved to be the catalyst for change. In this two-week interactive workshop, Chad and his team were able to:

- Mitigate risks and stakeholder concerns around time to value, data governance, and operational challenges stemming from the team's lack of skills and experience

- Create a rapid prototype and the basis for a POC by working hand-in-hand with NorthBay AWS-certified architects and engineers to validate a solution and

- Gain approval to move forward with developing a centralized data platform to enable sophisticated analytics and innovation

Start on the Path to Success with NorthBay and AWS

Participate in a Data Platform JAM Session and Assessment

- Mitigate risks
- Build a business case
- Develop a rapid prototype on AWS

To learn if your institution is eligible for funding from AWS and NorthBay to offset a portion of this investment, contact : info@northbaysolutions.com