



SYSB-II CASE STUDY

# Statewide Education System Delivers Continuous Access Without Application Changes



Higher Education

## Overview

A statewide higher education system supports academic and administrative applications accessed by staff and students across multiple colleges and universities. The system's core operations run on IBM z/OS using CICS and VSAM. Each institution has a dedicated CICS region, and environments are mirrored across the system. These applications serve enrollment, financial aid, student records, and other administrative functions backed by several hundred VSAM files.

With users distributed across campuses and dependent on timely access to shared data, even brief outages during batch processing could disrupt operations at multiple locations simultaneously.

## Business need

The organization required continued access to its CICS-based systems during batch processing, stable performance for campus users, and a solution that avoided application changes.

Batch jobs supporting financial aid processing, enrollment updates, and administrative reporting needed to run during off-hours. However, the batch windows required VSAM files to be closed, taking online systems offline. Students were denied access to systems during night processing, and staff at multiple campuses were blocked from completing time-sensitive tasks whenever batch jobs ran.

Key challenges included:

- ❗ Students denied access to systems during night batch processing
- ❗ Multiple campuses and institutions relying on shared VSAM-backed CICS applications
- ❗ Batch processing that constrained when systems could be available
- ❗ Response time degradation during periods of heavy file contention
- ❗ No budget or appetite for rewriting existing application code

The organization needed a way to allow batch and online workloads to coexist without modifying the applications that both depended on.

## Solution

SYSB-II was implemented to allow batch and CICS to update shared VSAM files concurrently while maintaining response times and data integrity.

Using a JCL-based deployment model, SYSB-II routed batch I/O through the owning CICS region, ensuring that all updates executed under standard CICS locking, journaling, and recovery controls. The solution provided:

- ✔ Concurrent batch and online access to the same VSAM files
- ✔ Consistent response times for campus users during batch processing
- ✔ Built-in journaling and backward recovery
- ✔ Implementation without any application code changes

This approach modernized the operational model while preserving the stability of proven applications.

## ⚙️ Benefits

- ✔️ **Continuous system access** — Administrative systems remained accessible to all campuses during batch processing, eliminating disruptive outage windows.
- ✔️ **Stable response times** — Users experienced no degradation in response time, even while batch jobs updated shared VSAM files concurrently.
- ✔️ **Flexible batch scheduling** — Batch processing was no longer constrained to narrow off-hours windows, giving operations teams greater scheduling flexibility.
- ✔️ **No application changes required** — SYSB-II was deployed without modifying existing application code, preserving the stability of mission-critical systems.
- ✔️ **Reduced operational risk** — Built-in journaling and automated recovery protections reduced the risk of data loss during concurrent processing.

## Maintaining availability across campuses

With staff and students at multiple institutions depending on the same set of CICS applications, any downtime had a multiplied impact. Previously, students were denied access to systems during night processing. This was a significant limitation for a system that serves colleges and universities with varied schedules and time-sensitive deadlines.

With SYSB-II in place, batch jobs that previously required file closures now run concurrently with online transactions. The system extended its availability to provide real-time access around the clock. Campus users continue their work uninterrupted, and operations teams no longer need to coordinate batch windows around usage periods across different institutions.



# Achieving results without application changes

A key requirement for this organization was avoiding modifications to existing application code. These applications had been stable for years, and the risk of introducing regressions was unacceptable given the number of campuses and users that depended on them.

SYSB-II's JCL-based implementation model allowed the organization to change how batch jobs accessed VSAM files without touching the application layer. This preserved existing testing and change management processes while delivering the operational improvements the system needed.

## Conclusion

By implementing SYSB-II, this statewide education system delivered continuous access to administrative applications across all campuses without modifying a single line of application code.

SYSB-II improved availability, stabilized response times, and gave operations teams the flexibility to schedule batch processing based on business needs rather than system constraints. The solution now operates as a core part of the production environment, supporting reliable service delivery across the institution.

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