



**Budget Optimization**

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## Introduction

This Overview Document is intended to provide FA ISIR JobSet users with a summary of the changes that will be made in the system with the upcoming budget optimization implementation.

Budget optimization provides the following benefits:

1. Ability for multiple colleges to be in CTCFABUD (budget job) at the same time
2. Opportunity for FA Support to adjust the max concurrency on the *FAPSAR00 Process ISIRs* process to prevent ISIR JobSet failures tied to the ‘unique constraint’ ISIR processing error
3. Flexibility for ISIR JobSet owners to select ‘Restart Request’ on an errored process in CTCFABUD after the source of the budget error is resolved

## Timeline of Go Live

We have discussed timing with App Services and determined that adding unrelated projects alongside the PeopleTools (PT) deployment adds unnecessary risk to the PT deployment, so the budget optimization will be implemented after the PT upgrade.

**Friday, April 25th 2024**

All users turn off recurrences and JobSets for PeopleTools upgrade.

**Monday, April 29th 2024**

PeopleTools upgrade is live. Colleges keep ISIR JobSet off to ensure safe migration of budget optimization the next evening.

**Tuesday, April 30th 2024**

Budget optimization migrates into production in the evening.

**Wednesday, May 1st 2024**

Morning - FA Support jiggles all ISIR JobSets

Afternoon – FA Support gives the green light to colleges to turn ISIR JobSets back on

## Overview of CTCFABUD

CTCFABUD (budget job) is in each college’s ISIR JobSet shell. It’s a job that selects students and updates their budgets according to the budget formulas your college has configured.

 **Navigation:** PeopleTools > Process Scheduler > Schedule JobSet Definitions

 

### Current CTCFABUD

CTCFABUD has 11 rows.

The first three rows (SCC\_POP\_UPD) are for updating the budget flags on students to pick up in the PS delivered budget processes.

The remaining eight rows are tied to selecting and updating budgets on students.

**FAPREQRN (Equation Processor Batch Run)** – Calls institution and aid year set by user

 **FAPBDGTS (Stdnt Bdgt Assign - Select)** – Selects students

**FAPREQRN (Equation Processor Batch Run)** – Calls institution and aid year set by user

 **FABDGTF (Stdnt Bdgt Assign – Formulas)** – Calculates budgets via budget formulas

**FAPREQRN (Equation Processor Batch Run)** – Calls institution and aid year set by user

 **FAPBDGTM (Stdnt Bdgt Assign – Move)** – Moves budgets to student’s record

**FAPREQRN (Equation Processor Batch Run)** – Calls institution and aid year set by user

 **FAPBDGTD (Stdnt Bdgt Assign – Delete)** – Clears budget staging table



The delivered budget processes (FAPBDGTS, FABDGTF, FAPBDGTM and FAPBDGTD) do not retain the user’s parameters after they run, so before each budget process, the institution and aid year parameters need to be called via FAPREQRN.

This design of CTCFABUD is the reason why multiple users cannot be in CTCFABUD at the same time.

Scenario example

Let’s say User 1 has parameters WA120 and 2024, and they enter CTCFABUD and finish running the first budget process of selecting their students.

Then User 2 comes into CTCFABUD and calls their parameters WA280 and 2024 right before User 1 gets to the process of calculating budget formulas.

The outcome would be User 1 will end up updating WA280’s students’ budgets instead of their own because of the timing of which parameters were called before they entered the next budget process.

### New CTCFABUD

CTCFABUD has 7 rows.

The first three rows (SCC\_POP\_UPD) are for updating the budget flags on students to pick up in the PS delivered FA processes.

The remaining four rows are tied to selecting and updating budgets on students.

 **FAPBDGTD (Stdnt Bdgt Assign – Delete)** – Clears budget staging table

 **FAPBDGTS (Stdnt Bdgt Assign - Select)** – Selects students

 **FABDGTF (Stdnt Bdgt Assign – Formulas)** – Calculates budgets via budget formulas

 **FAPBDGTM (Stdnt Bdgt Assign – Move)** – Moves budgets to student’s record



With the help of App Services, we have successfully updated the COBOLs tied to the PS delivered budget processes (FAPBDGTS, FABDGTF, FAPBDGTM and FAPBDGTD) so that they retain the user’s parameters throughout the user’s run of CTCFABUD.

We have also reordered the budget processes so that FAPBDGTD (Stdnt Bdgt Assign – Delete) is the first budget process in CTCFABUD.

This new design has several user and system benefits explained in detail in the next section.

## Benefits of Budget Optimization

### Ability for multiple colleges to be in CTCFABUD at the same time

With the current design of CTCFABUD, one user’s college and aid year parameters can override another user’s college and aid year parameters in the middle of processing.

Due to this risk, CTCFABUD has a max concurrency of **one**, which means that only one user can be in CTCFABUD at a time. The rest of the users who reach CTCFABUD while it’s being occupied will temporarily go to a Status of **Blocked** and get the following message:

***Process is blocked because maximum concurrent instance (XXXXXXXX) is reached***



Though the message seems alarming, it is saying the door is closed and once it is your turn, you will be able to enter CTCFABUD.

With the new design, CTCFABUD will no longer have the risk of users overriding each other’s parameters, so the max concurrency will be adjusted to a limit of six colleges being in it at one time.

### Opportunity for the max concurrency of FAPSAR00 to be adjusted

With 33 colleges’ ISIR JobSets running during the same window (Monday – Friday, 5PM – 5AM), there have been times when ISIR JobSets would fail due to one college attempting to process a student’s ISIR while another college is attempting to process the same student.

In these cases, the FAPSAR00 *Process ISIRs* process changes to a Status of **Error** and the View Log/Trace shows the following error message:

***ORA-00001: unique constraint (SYSADM.PS\_NSLDS\_GEN) violated***





The resolution for the error is to select ‘Restart Request’ on the process when no other user is processing the same student, but not between 7AM - 11:30AM (keeping in mind morning processes, such as disbursements, that are running system wide). An ISIR JobSet suddenly running during the day can slow down the system significantly.

As a preventative measure, adjusting FAPSAR00’s max concurrency to **one** would be ideal so only one college will be processing batch ISIRs at a time. However, with two processes in the ISIR JobSet (FA\_INBOUND and CTCFABUD) already putting users in waiting queues each night, limiting one more process to a max concurrency of one would further extend the ISIR JobSet run time.

Now that CTCFABUD’s max concurrency limit has been set to six, we have our opportunity to adjust the max concurrency on FAPSAR00 to one.

### Flexibility for ISIR JobSet owners to select ‘Restart Request’ on errored processes in CTCFABUD

With the current design of CTCFABUD, the budget processes require the user’s college and aid year parameters to be called before running each budget process, so selecting ‘Restart Request’ on an errored budget process after resolving the issue is not an option. The *entire* JobSet process instance must be deleted, and a ticket must be submitted to FA Support to run a process in production to clear the staging table of students stuck in *Budget Assign in Progress*status for the college.

With the new design, the user can select ‘Restart Request’ after resolving the issue causing the budget job to error, but not between 7AM - 11:30AM (keeping in mind morning processes, such as disbursements, that are running system wide). An ISIR JobSet suddenly running during the day can slow down the system significantly.

In addition, should a user delete the *entire* ISIR JobSet process instance, there is no longer a need for FA Support to clear the staging table of students stuck in *Budget Assign in Progress* status, since the clearing of the staging table will be the first budget process in CTCFABUD.





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