




This report summarises the lessons learnt from Acceptance Testing of SEASABS version 2.6 during the Nov-Dec 2006 timeframe. It also outlines a future strategy to streamline the process for clients and analysts alike.

Lessons Learnt

1. The in-house "Global Acceptance Testing" (prior to User Acceptance Testing undertaken by SMAs) did not use a diverse (and maybe large) enough TestPack. This "Global Acceptance Testing" is performed to ensure that the generic functionality is not broken, and that differences in series estimates can all be explained by "intended changes" that are traceable through SRs. During version 2.6 testing, no differences were found when compared against version 2.5, even though we knew there were differences. The reason for this is that the TestPack contained oversimplified aggregation structures and focussed predominately on directly adjusted series. An effort should be made to include series across collections that can potentially be affected by the 'known' changes in functionality. For your information, the Global Acceptance Testing procedure, the TestPack and the "comparison/revisions" script are outlined in:  (Subject: SEASABS/TSUpdate acceptance test procedure.; Database: Time Series Analysis WDB; Author: Frank Masci; Created: 03/04/2006; Doc Ref: FMAI-6NH4R7).
2. Not everyone (either TSAs or SMAs) could digest all the changes in an upcoming version as summarised in the Technical News Sheet (TNS). The important changes that are known apriori or can potentially affect time series estimates and products (e.g. seasonally adjusted, trends, factors etc..) need to be fully fleshed out and brought to everyone's attention.
3. All CSMs need to understand if their area will be affected by the revised functionality that can lead to changes in series estimates. If not, the CSM will need to research this further by either contacting the client in advance (prior to User Acceptance Testing) to inquire if the changes are applicable, or, test for themselves if revisions will be incurred in publications once a new version gets deployed into production.
4. Prior to commencement of User Acceptance Testing, the 'target' testing audience within all SMAs was not known. An email was sent to all directors (regardless of whether they had seasonally adjusted series or not) notifying them of the upcoming SEASABS release and the timeframe for testing [e.g.  Subject: SEASABS Suite - Planned user testing and timing of next production release; Database: Time Series Analysis WDB; Author: Melissa Gare; Created: 27/10/2006; Doc Ref: MGAE-6UYALN]. When SEASABS was released, all directors were again notified with a summary of the key changes as summarised in the TNS [ Subject: SEASABS Suite; Database: IT@ABS; Author: Duncan McCaskill; Created: 31/10/2006]. The problem here is that the importance of SEASABS testing was not made visible to all those who actually execute the software during production. We were only made aware of those involved in testing after communications through the sign-off procedure. Also, any "coordinate go-betweens" should have been notified and cc'd on all correspondence. We now know that ESG has one.
5. Instructions on how to perform the actual testing, what to test, or which tools

to use were not provided as it was anticipated that each area would have their own way of running and checking things. This wasn't actually the case and in most cases the SMA tester was at a loss at where to start and in some cases the person assigned to undertake the testing was not familiar with the SEASABS suite at all. Furthermore, different tools were used to download estimates from the ABSDB. The formats and methods for comparing the outputs from different versions of SEASABS runs was also not consistent. A more consistent and streamlined method that is not prone to user error is required. The results of the comparisons should be in a format that can be easily interpreted/analysed by TSA and stored for clearance purposes and/or future reference. The final comparison report (with actual data if necessary) should be provided with the sign-off by a SMA.

6. If software changes were involved that lead to revisions in series estimates, no attempt was made in advance by TSA to suggest recommended wordings or disclaimers warning of revisions in publications. This came after the fact or when the SMA contacted us requesting such information. Some SMAs (e.g. retail) had to publish soon after the SEASABS release.
7. The bulk of acceptance testing was performed prior to Christmas shut down when publication deadlines are tighter and there is less staff around to resolve any problems after the release. It would have been less stressful to perform the testing and release one to two months month later (i.e. Jan, Feb) when the reanalysis cycle is quieter.

Checklist and Strategy for Future Acceptance Tests:

This is really a checklist on how to circumvent the above and better streamline the process. The timeline is very tentative. This is given in terms of "**T - m**" where **T** = notification of SEASABS test release to users/clients (step 8 below) and **m** = number of months.

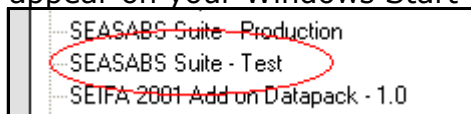
- 1. T - 4.5 (ongoing):** Finalise unit testing and sign-off individual Service Requests intended for the upcoming release. This is usually performed by the SR originator or those who wrote the specifications. If they are no longer present, then a director or the SEASABS TSA testing manager should delegate. The SR originator (and followed up by a director or testing manager) should ensure that specific instructions on how to test are included in the SR (e.g. list of relevant series).
- 2. T - 3.5:** "Global Acceptance Testing Phase" (in-house by TSA): expand the current TestPack to include series across collections that can be potentially affected by the 'known' changes in functionality as outlined in the TNS. Also make an effort to include 'complicated' aggregation structures in the TestPack. We had a better idea of these following version 2.6 testing.
- 3. T - 3.5 (included in step 2):** Refine the "list of changes" following outcomes from the "Global Acceptance Testing", in addition to expected changes from the initial TNS. Distil all changes in functionality that can lead to differences in series estimates between versions in a "client friendly" document.

4. **T - 2:** Ensure all CSMs understand the changes between versions that can lead to differences in series estimates. Also, the "list of changes" document should list those SMAs that can be potentially affected by the changes as found from the "Global Acceptance Testing". This list of SMAs is not complete and the CSM will need to perform further research (see next step).
5. **T - 2 (included in step 4):** Each CSM will need to further research if the list of changes will affect their area, therefore refining the "affected SMA list" in the "list of changes document". This needs to happen before User Acceptance Testing. If the CSM is in doubt (due to insufficient information within the SEASABS system), then they will need to work with their area(s) to determine if a change is applicable to them.
6. **T - 1:** In preparation for the initial notification of User Acceptance Testing to clients, we want to compile the list of "target testers", those actually involved in executing TSUpdate during production, and all associated directors. In my opinion, the more eyes that see the email, the better the 'team awareness'. Also include any "coordinator or go-betweens": e.g. Elizabeth Gallacher for ESG who was inadvertently omitted during version 2.6 testing. Is there a coordinator for PSG?
7. **T - 1 (included in step 6):** Initial notification to users/clients (list compiled from step 5) informing of upcoming Acceptance Testing. Include in this email:
 - schedule for release of test versions of SEASABS, ABSDB, and ABSIW into corporate environment. Note that these components may not coincide in future. They did in Dec 2006. *Nonetheless, ABSDB test must first exist (or be updated by cloning the user DB) before test SEASABS can be released.*
 - time available to complete and sign-off the testing, we may request this to be a few days before actual production release;
 - actual planned production release date;
 - request confirmation email from those who will be involved in testing (this is for directors to schedule);
 - mention that they will be receiving another email when the test version is ready and that this will contain more specific instructions on how to perform the testing, which tools to use and the sign-off procedure (see below).
8. **T - 0:** Notification of SEASABS test release to users/clients (list compiled from step 5) informing that they can commence acceptance testing. In particular, this email should include:
 - time available to complete and sign-off the testing, we may request this to be a few days before actual production release;
 - actual planned production release date;
 - attach known "list of changes" document together with potentially affected SMAs compiled from steps 2, 3, 4 above.
 - **expanded in section below: "Instructions for User Acceptance Testing"**: how to access test/prod versions of TSUpdate, which database to test in, recommended series/structures/spans to test, downloading tools, comparison tools, comparison report file format. What to do if unexplainable differences are found (i.e. if not indicated in "list of changes" document).
 - sign-off/clearance procedure: attach final comparison report with statement that they are happy to sign-off.

9. **T -> T + 1.5 (perform throughout testing period):** For the SEASABS TSA testing manager: record testing status of each client with issues (if any) and doclinks on sign-offs: e.g. for version 2.6 testing: 📄 (Subject: Summary of SEASABS v2.6 testing; Database: Time Series Analysis WDB; Author: Melissa Gare; Created: 08/11/2006; Doc Ref: MGAE-6VC36N).
10. **T -> T + 1.5 (included in step 9; perform throughout testing period):** For TSA (delegated by a director or the TSA testing manager): prepare memoranda and suggested wordings for publications to explain the cause of expected revisions when the new version is rolled out into production.
11. **T + 1.5:** Clearance reports and readiness for release into production.

Instructions for User Acceptance Testing:

1. Set-up and install test version of SEASABS. There are two ways to access the test version of SEASABS tools:
 - (i) If an updated test version of the ABSIW has been released, then you first need to install or update the ABSIW test software from the software portal. The SEASABS tools (e.g. "Series Aggregation & Update" - aka TSUpdate) tool is available from the ABSIW front end;
 - (ii) If a new test version of the ABSIW is not available, then you can install the SEASABS client suite directly from the software portal and have the tools appear on your Windows Start Menu. The relevant item to install is:



2. Log into the test version of TSUpdate (the "Series Aggregation & Update" tool) from either the ABSIW test front end ("Time Series" tab), or, your Windows Start Menu (i.e. option (ii) above). Ensure you log into the "Test Database". At the time of writing, this database is also called "UAC4". This database is a snapshot of the USER database prior to the SEASABS test release. It provides a stable testing environment.
3. Using the aggregation tool, identify a group of series to test: we recommend series that are embedded in "complicated" aggregation structures if they exist. If there are different "flavours" of aggregation structures (e.g. splicing, CVMs, straight aggregates), then we recommend including these aswell. If in doubt, get your CSM in TSA to help you. The "list of changes and affected SMAs" document may also help you identify good series for testing.
4. Select the groups and/or series within and execute the test version of TSUpdate to generate seasonally adjusted and trend estimates on the 'test' ABSDB.
5. Download series estimates (seasonally adjusted and trends) from the 'test' ABSDB using the **????** tool and save these into a file that has the word "test" somewhere in its filename - i.e. an identifier to distinguish it from "prod" that will be created later.

6. Log into the production version of ABSIW. Ensure you again log into the "Test Database" as indicated on the ABSIW interface.
7. Start up the production version of TSUpdate (or the "Series and Aggregation Update" tool) from the ABSIW interface. This is accessible from under the "Time Series" tab.
8. For the same series selected in step 5, execute this production version of TSUpdate to also generate seasonally adjusted and trend estimates on the 'test' ABSDB. Note that the estimates generated from the prior run of TSUpdate (step 5 above) will be over-written in the 'test' ABSDB.
9. Download series estimates (seasonally adjusted and trends) from the 'test' ABSDB using the **????** tool and save these into a file that has the word "prod" somewhere in its filename - i.e. an identifier to distinguish it from "test" that was created earlier (step 6 above).
10. Compare the output files generated from steps 6 and 10 using the **????** tool and note any differences over the entire span for all series. Generate a "comparison report" and save this to a file. This file should list all series names tested, differences in series values, and the time points (or periods) to which they correspond.
 - **The method or tool used to compare series estimates will depend on the format of the data files generated by the specific ABSIW tool. E.g. for version 2.6 testing, clients used: PPW (by recreating 'test versions' of all pub tables); SEASABS Download tool; Table Maintenance & Derive tool (exporting to spreadsheets); Time Series Deliver tool.**
 - **For comparing files, most clients performed differencing within spreadsheets. Alternatively, we can suggest:**
 - **using the existing "Download" facility from the SEASABS suite (or ABSIW front end) in conjunction with Frank Masci's perl script for comparing series values. A summary of differences for entire groups is written to a text file. This tool runs on the MS-DOS command prompt.**
 - **The above "Download + perl script" can be used as a model by TSD to build into an existing ABSIW tool.**
 - **Enhance the existing PEDS X-File Check Facility to compare spreadsheet contents.**
 - **build a more generic comparison facility: e.g. the planned XML checker for checking revisions in successive publications.**
11. If differences were found, check if these can be explained by known/expected changes summarised in the "list of changes and affected SMAs" document. If not, send your comparison report to your CSM in TSA for further investigation and wait for their diagnosis.
12. Once you are happy that all noted differences (if any) can be explained, feel free to sign-off the User Acceptance Testing by sending an email to the SEASABS TSA testing manager containing:
 - a statement that you are satisfied and willing to accept the noted differences.

- attach your final comparison report file (see step 11).
- cc: your director(s), TSA's directors, your CSMs.

Frank Masci

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