REPORT ON THE ACTIVITIES CONDUCTED TO IDENTIFY A COMMERCIAL PLATFORM FOR ONLINE RPT AND A SYSTEM OF SCHOLARSHIP TRACKING

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EXECUTIVE SUMMARY

1. The current online RPT system, which is a campus-designed, Moodle-based solution, has severe usability and security limitations, no integration with other systems (e.g., the Class Climate server for SOTE data), and no capability of producing aggregate reports useful for administrative purposes such as university or college accreditation.

2. Should the campus decide to replace the current system with a commercial solution, the new RPT platform needs to provide the desired usability and data security, while also conforming to the legal requirements of the process. Ideally, the system would provide data for, or easily integrate with, a reporting system, such as the one mandated by the Strategic Plan, Faculty & Staff Success/Goal 2.1.2 (Develop a Research, Scholarship and Creative Activities Tracking System for Faculty).

3. Currently, the only viable commercial solution for a robust online RPT platform is Faculty180, a product of the former Data180 now acquired by Interfolio. Although the product offers the required functionality, it has two limitations directly stemming from the 2017 merger with Interfolio: (a) possible security concerns due to the cloud storage of data; (b) incomplete integration with the old Interfolio product (as of June 2017), which makes it difficult to keep separate three sets of data: faculty data used for research tracking and reporting purposes; faculty data used for RPT purposes; and, personal faculty data that the faculty might not want to share with RPT evaluators at particular stages.

4. As of June 8, the price offer for a 5-year contract includes:
   - **Option 1**: Faculty180 product ($257,993): ability to create a fully online, customizable faculty package for RPT purposes; ability to create reviewing workflows; ability to produce various reports, including reports of research tracking purposes;
   - **Option 2**: Faculty180 and ByCommittee P&T product ($382,388): includes the ability to facilitate committee work, specifically the ability of RPT committees at various levels to review, annotate, and comment on the reports produced at the lower level;
   - **Option 3**: Faculty180, ByCommittee P&T, and Faculty Search product--the equivalent of NeoGov for faculty recruitment ($457,958).

5. The Faculty Associate for ATI recommends that the campus consider option 2 on a trial basis with the following four caveats:
   > (a) Unless under time pressure to achieve a fully digital solution, the campus delays the decision to commit to a contract with Interfolio until full integration of Faculty180 and ByCommittee P&T products is achieved and tested (2018, according to the vendor) and the needs of the research tracking system are established. In particular, care must be taken that any future benefits accrued by the full integrated product are provided at no additional cost;
   > (b) The data security concerns are addressed contractually;
   > (c) The vendor provides a viable exit solution, namely, a way to port faculty data **as well as** data structure on a new platform. Alternatively, if the vendor is unable to provide this solution, ITS and Academic Personnel prepare for an in-house solution;
   > (d) The price is negotiated down by 20%.

I. The current online RPT system

History of implementation
The current online RPT system is a home-grown system implemented in 2014. The development of the system was assigned to instructional designer Mauricio Cadavid (who was at the time the Moodle administrator for the campus). Conversations about the campus having an online RPT system began in early 2014. At the time, Academic Personnel decided that the available commercial options were too expensive and not sufficiently customizable, and expressed concerns about faculty data being hosted on vendor servers. After consultation with ITS staff, Academic Personnel decided on a secure Moodle-based solution hosted and paid for by ITS and oversaw the development of online templates. The Moodle-based RPT was piloted in Fall 2014 with second-year faculty. Mr. Cadavid provided training to Academic Personnel and was involved, along with Academic Personnel, in faculty training until summer 2015. At that point, Academic Personnel took over the training and assigned tech support responsibility to Mr. Cadavid, who continues to provide tech support to the system.

Description
In essence, the system uses a learning management platform, Moodle, to create a structured system of storage for faculty. In other words, the system is not meant to guide faculty through the creation of the Faculty Activities Report (FAR), but is in fact an e-portfolio that simply enables faculty to upload the FAR and the supporting attachments in lieu of submitting the materials in binder format. Thus, the system essentially replicates a binder organization, without using in-document hyperlink functionality. See Fig. 1 below.
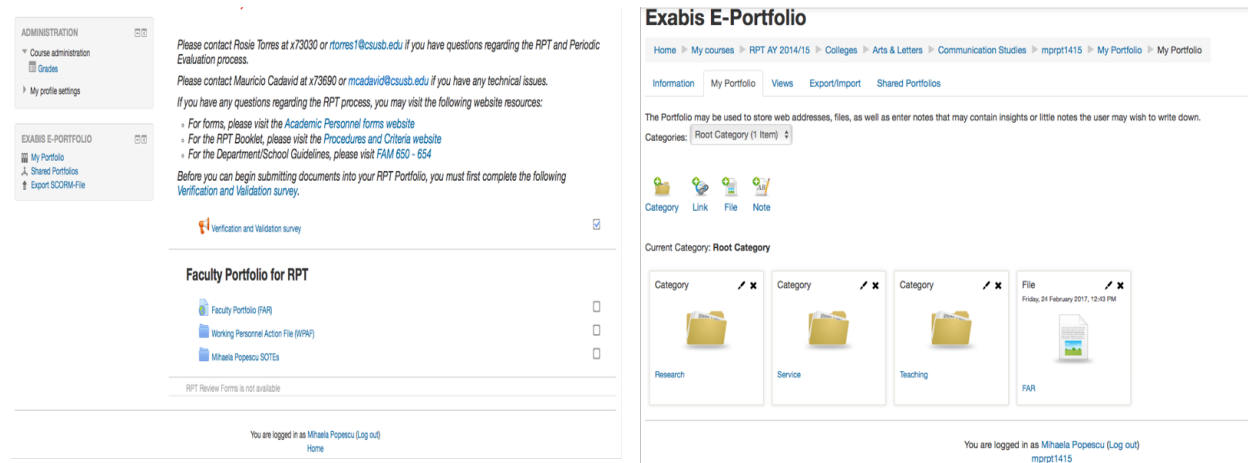

Figure 1. The current online RPT system

Limitations
The current online RPT system is used directly by the following categories of stakeholders:
- **Faculty who submit activity reports.** The only faculty currently using the system are the probationary faculty, currently 121. Of those, 80 are using the system.
- **Faculty and administrators who evaluate FARs**
- **Academic Personnel staff** who administer access to various components of the report and ensuring data integrity—currently, Ms. Rosalind Torres.

- **Personnel training users on how to employ the system**. This function is fulfilled in part by Ms. Rosalind Torres (Academic Personnel), Faculty Mentorship Network, and, recently, by the Faculty Associate with ATI, Dr. Mihaela Popescu.
- **ITS personnel involved in system maintenan**ce—currently, Mr. Cadavid.

As determined based on interviews with members in every category, the current system has the following usability limitations:

For the faculty submitting FAR:
- The interface is clunky and not intuitive;
- The system only allows storage, but has no document automation capability. For example, the system does not enable faculty to actually create the FAR on the system via a form (template); all documents have to be created separately and uploaded just like one would upload documents into Dropbox or Google Drive;
- The system currently does not support hyperlinking from inside the FAR. Files are matched to the Index of Attachments (IA) by the title;
- The faculty has to match the order in the IA to the order of file upload. If the order in the IA changes, the faculty has to reorganize all the files manually, just like one would do in a binder, as well as change their names to match the proper index in the IA;
- Although the files are available in the subsequent year, faculty typically have to reorganize and retitle them manually as a result of changes in the FAR and IA.

For the evaluators:
- The FAR is not hyperlinked to the documents referenced in the IA, which makes the process of review cumbersome. When faculty did try to create a hyperlinked file (for example, by embedding attachments referenced by hyperlinks into a Word document), the resulting document's size made it difficult to view;
- To process of gaining access to the files is not automatic: a first-time reviewer would have to log onto the system and let Ms. Torres know, then access is granted manually.

For Academic Personnel:
- The process of assigning and retracting permissions for access to a faculty's dossier is entirely manual: Reviewers request access to files, Ms. Torres checks the credentials of the reviewer against college-provided lists, and grants access for the reviewer to the specific file;
- The SOTEs are not integrated with the Moodle system. The SOTEs have to be requested separately on a case-by-case basis, thus: Ms. Torres sends an email to Ms. Luisa Hawkins with the name of the faculty being reviewed and the committee members; Ms. Hawkins emails Ms. Torres the SOTEs files, Ms. Torres emails the SOTEs files to the reviewers and uploads the files to the faculty's online account;
- It is difficult to monitor access to the system;
- There is no automatic backup of the system; all backups have to be done manually;
- Because support for technical difficulties with the platform does not reside with Academic Personnel, faculty running against deadlines are usually frustrated.

The characteristics of a robust online RPT system
A robust online RPT system needs to provide the desired usability and data security, while also conforming to the legal requirements of the process. At the minimum, the system needs to:
- address the identified limitations for the various categories of users;
- provide customizable templates that conform with the campus RPT process and the specific requirements of various departments;
- integrate with other campus systems that provide data relevant to the online RPT process (e.g., the Class Climate server; the list of courses taught by faculty from PeopleSoft);
- provide secure data access and storage;
- provide a system of access audit;
- provide a solution for transitioning faculty who currently are not using the online RPT system;
- provide a reasonable exit strategy in case the product is discontinued.

Additionally, support structures need to be in place to:
- assist various categories of users;
- modify RPT templates if necessary;
- maintain and troubleshoot the system.

Ideally, the online RPT system would also integrate with or provide separate data for university reporting and tracking needs, for example WASC accreditation, aggregate reports on assigned time, scholarship tracking and reporting, or other aggregate reporting functions.

II. The consultation process
In March 2016, the Faculty Mentorship Network, in consultation with Academic Personnel and the VP for ITS, Dr. Sam Sudhakar, requested that the Faculty Associate for ATI, Dr. Mihaela Popescu, serve as faculty lead assigned the following task: during summer 2016, develop training sessions on the current RPT platform for new faculty as well as investigate the possibility of either improving the current system or looking for alternative products. The AVP for Academic Research (then Dr. Jeff Thompson) who was working on the Strategic Plan, Faculty & Staff Success/Goal 2.1.2 (develop a research, scholarship and creative activities tracking system for faculty), felt that the two projects had enough in common to be linked as one project.

During summer 2016, Dr. Popescu researched the current online RPT system, developed the structure of the training session for new faculty (she conducted two training sessions with new faculty in February 2017) , conducted interviews with members of every category of stakeholders currently involved with the system, and determined that investigation of a commercial product was warranted. She identified the top three vendors in the online RPT space; at the time:
- Digital Measures, http://www.digitalmeasures.com;
- Interfolio, https://www.interfolio.com.
- Data180, https://www.interfolio.com/about-data180/ (Interfolio acquired Data180 in Jan. 2017).

In August 2016, she organized demos with each vendor attended by representatives of each stakeholder group. Specifically, invitations were sent to the following, who attended in person or by representative: Francesca Beer; Cindy Crawford; Michael Chen; Davida Fischman; Jacqueline Hughes; Terri Nelson; Jean Peacock; Mihaela Popescu; Jeff Thompson; Javier Torner; Rosie Torres; Eri Yasuhara. Based on the demos, it was decided that Data180 and Interfolio should be invited to deliver demos to the wider campus audience. Digital Measures lacked the ability to manage committees by creating different levels of access for categories of users and by streamlining the decision process.

In November 2016, Dr. Popescu organized campus demos with the two vetted vendors. Each vendor delivered three demos: to Senate representatives; to the campus at large; to ITS Leadership. The campus demos are available at the following links:
- Data180, for the product Faculty180: https://youtu.be/cCUkf1Rkes0
- Interfolio, for the product By Committee: https://youtu.be/TbtId5KymHA

Additionally, Dr. Popescu reached out to some of the CSU campuses that were using the two products at the time, specifically: Dominguez Hill, Humboldt, San Jose State, San Diego State, San Francisco State.

Of great interest was the conversation with AVP Elna Green, San Jose State. At the time, she reported that the campus was using both products in different ways: Interfolio for committee work, and Faculty180 for sabbatical and FERP applications. She also reported that the campus was in the process of implementing Faculty180 as an online RPT platform and using that product for accreditation purposes as well. She commented on the fact that Faculty180 integrated easily with PeopleSoft and the single sign-on process, that the product allowed full customization including a campus-branded name for the platform, that the creation of different levels of access based on context was easy, and that the production of aggregate reports was fully automated. She also noted that, while both vendors provided good support, the campus was planning on discontinuing the contract with Interfolio because of Interfolio's pricey service. Thus, Interfolio, after offering a discount for the first year (half price) and charging full price for the second year ($22,000), increased the price to $36,000 for the third year.

Dr. Popescu distributed a feedback questionnaire to all individuals in attendance at campus-wide and Senate demos. Although she did not receive sufficient responses to conduct a statistically valid analysis (namely: 2 responses from Senators on Interfolio and Faculty180 respectively, 4 campus responses on Faculty180 and 1 campus response for Interfolio), consultations with those in attendance during December 2016 and the qualitative inspection of the response data indicated a preference for Faculty180. Specifically, unlike Interfolio, Faculty180 offered full customization, better data security, the ability for the faculty to back up data on a medium of choice, and a better exit strategy in case a possible campus contract was not renewed.

However, the acquisition of Data180 by Interfolio in early 2017 introduced uncertainty into the decision process for two reasons: (a) it was not clear how the two products, separately investigated by our campus, would be integrated into a cohesive platform; (b) it was not clear how the security concerns that the campus identified with the Interfolio product would be addressed by the integrated product.

These concerns were eventually addressed, albeit not entirely satisfactory, in a final group conversation/demo with the vendor on June 8, 2017, as well as conversation between the vendor and the Faculty Associate on June 9, 2017. A written response by the vendor to the questions asked during the final meeting is attached to this report.

III. The Interfolio product

The current Interfolio product partially integrates separate functionality stemming from the two previously separate platforms. It is currently sold separately or in combination as three modules:

- The Faculty180 module offers a full online FAR solution, a data migration solution, full user data management by faculty, integration with other campus data systems, and a functional, albeit limited, workflow for RPT decisions. The Faculty180 product generates the following outputs: "CVs" (documents with hyperlinked included that could be customized for a variety of purposes, from an actual CV to a FAR document, as per customizable templates built on the system); bio-sketches for grant applications; reports (ad hoc, accreditation or custom); data mining & visual analytics; performance appraisals; data push to campus repositories. See Fig. 2 below, Faculty180 Demo slide deck, Faculty 180 Marketing brochure and Faculty180 campus demo. Additionally, the Faculty 180 module enables the extraction of faculty research data from various outside sources (see Fig. 3 below), as well as queries about faculty research outputs. The module enables reporting on research and scholarship activities, although the full management of the research data and the ability to use the platform for grant management is only available via the MyCommittee module.
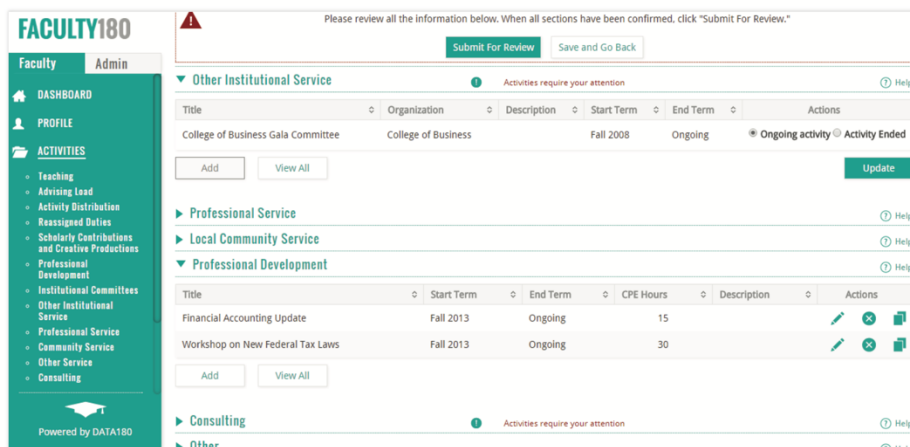

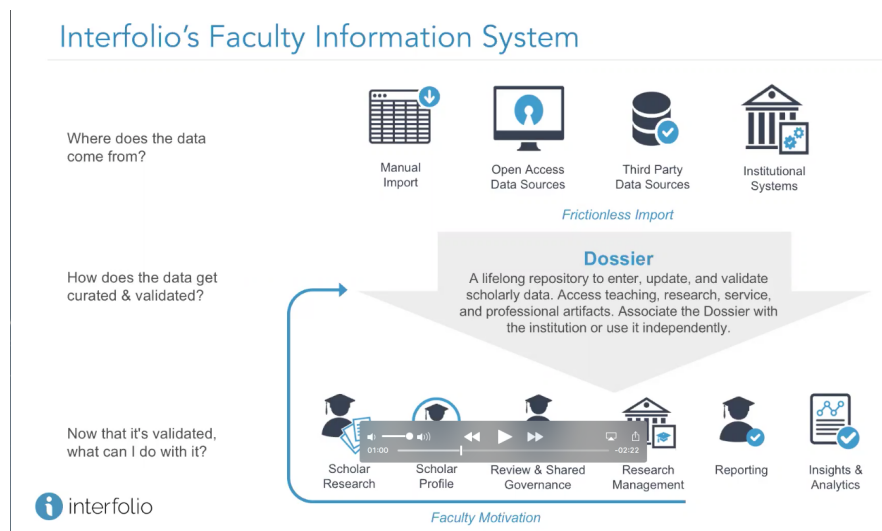Figure 2. Screenshot of the Faculty180 interface

Figure 3. Sources of research/scholarship data available to the Faculty180 module. Note that the full research management/review and shared governance functionality is only available via the ByCommittee module

- The ByCommittee Promotion & Tenure (P&T) module creates a faculty "dossier" that provides additional functionality to committee work. The faculty dossier can be inspected by different types of evaluators. Depending on the level of access of the evaluators, the digital dossiers include prior evaluations, the ability to create and share among RPT committee members new evaluation reports, and the ability to annotate documents. See Fig. 4 below, Interfolio Product Suite slides, and Interfolio campus demo. Essentially, this module adds usability to the Faculty180 package and provides additional committee functionality by enabling online collaboration among committee members. Thus, while this module is not strictly necessary to the online RPT process (RPT workflows can be created in Faculty180), the evaluation process is enhanced by the addition of this module. Additionally, the range of reports that can be generated using various sets of faculty data is also enhanced with this module.
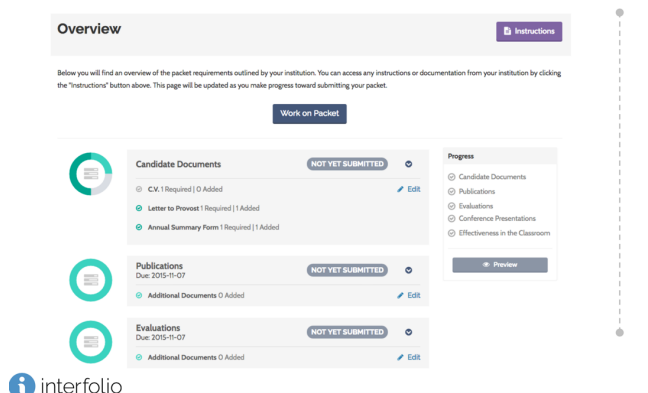

Figure 4. Screenshot of a workflow as generated by the MyCommittee module

- The Faculty Search module is an alternative for NeoGov. It includes reporting capabilities and allows annotation and rating. See Fig. 5 below and Interfolio Product Suite slides.

Figure 5. Screenshot of the Faculty Search module

The following items were successfully addressed by the vendor:

- The Interfolio product as currently offered (namely, with the Faculty180 module) allows the custom design of templates that conform to the university-mandated FAR, as well as the requirements of individual departments;
- The platform supports the implementation of workflows that match the current RPT process, as well as differential access to faculty data;
- The platform conforms to most security standards needed for an online RPT process, including the ability to encrypt data, preserve access data logs, and prevent the unauthorized download and distribution of digital material;
- The platform addresses all the usability limitations identified with the current RPT platform;
- With the ByCommittee module, the Interfolio product can offer full committee functionality, improve the reporting functions and can also provide research management functionality for faculty.

Pending concerns with the product include:

- **The ability of using the platform for multiple purposes is somewhat restricted by the lack of full integration between the Faculty180 module and the ByCommittee module.** The lack of full integration has no impact on the online RPT process if the platform is used solely for that purpose. However, in order to use the platform for multiple purposes, faculty need to be able to decide which data is available for which purpose and who has access to that data. For example, faculty might wish to withhold a particular manuscript from consideration by RPT evaluators, yet make that manuscript

available for the purpose of tracking faculty scholarship. Similarly, faculty might wish to upload to their profiles time-sensitive content that needs to be digitally captured at a particular time, yet keep that artifact private until a decision can be made regarding its inclusion in the RPT process. ***Currently, the Faculty180 module does offers faculty the possibility of creating separate documents to be used for different purposes (as per verbal clarification received from vendor on June 9).*** However, the meta data of all items uploaded by the faculty is available to any system query. Thus, although an RPT evaluator will not have access to a file if the faculty does not include that file as part of the FAR package, an evaluator running a system query would presumably be able to see that the file exists on the system (although not able to access it). In other words, the ability to restrict access to meta-data depending on the context is not currently available, although presumably available once the full integration of the two products is achieved.

- **Data security.** Unlike the original Faculty180 product, which stored data on secure company servers, the current Interfolio solution stores all data on Amazon servers. Thus, contractual clauses would need to be in place ensuring full data security (e.g., the location of the servers in the U.S.).
- **Limited exit strategy for porting data to a different system in case of product discontinuation.** The company offers faculty the possibility of downloading the data in several common formats, but not the possibility of recreating the data structure, should the campus discontinue the product. Thus, to avoid prohibitive lock-in costs, an exit campus strategy would need to be developed by ITS and Academic Personnel.

Although not directly germane to the adoption to this particular product but to digital RPT systems in general, concerns were also expressed about the impact of the proposed intellectual property (IP) policy on having a fully digital system of administering faculty data, the assignment of liability in case of data breaches, and the assignment of damages awards in cases of harms resulting from faculty data breaches.

IV. Pricing offer

The full pricing offer and contract are attached to this report. The pricing offer is a 5-year tiered offer for the current number of full time and part time faculty, detailed in Table 1 below. The vendor indicated that the offer accounts for natural variation in the number of F/P faculty, although significant increases would result in a price renegotiation. The vendor did not specify what constitutes a significant increase and indicated that price renegotiation is a possibility for a "significant" decrease in faculty counts as well.

Faculty180		Year 1	Year 2	Year 3	Year 4	Year 5	
Faculty Activity Reporting		49,200	51,200	53,200	55,300	57,500	
Review, Promotion and Tenure		0	0	0	0	0	
Faculty Search		0	0	0	0	0	
Total List Annual License		**49,200**	**51,200**	**53,200**	**55,300**	**57,500**	
Multi-year Discount		30.0%	22.5%	15.0%	7.5%	0.0%	
Dollar Discount		(14,760)	(11,520)	(7,980)	(4,148)	0	
Annual License after discounts		**34,440**	**39,680**	**45,220**	**51,153**	**57,500**	

		Year 1	Year 2	Year 3	Year 4	Year 5	
FAR Implementation		30,000					
Total Annual Costs		**64,440**	**39,680**	**45,220**	**51,153**	**57,500**	**$257,993**
Faculty180, ByC - P&T		**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	
Faculty Activity Reporting		47,000	48,800	50,800	52,800	54,900	
Review, Promotion and Tenure		39,100	40,700	42,300	44,000	45,800	
Faculty Search		0	0	0	0	0	
Total List Annual License		**86,100**	**89,500**	**93,100**	**96,800**	**100,700**	
Multi-year Discount		30.0%	22.5%	15.0%	7.5%	0.0%	
Dollar Discount		(25,830)	(20,138)	(13,965)	(7,260)	0	
Annual License after discounts		**60,270**	**69,363**	**79,135**	**89,540**	**100,700**	
Additional CSU System Discount	10.0%	(8,610)	(8,950)	(9,310)	(9,680)	(10,070)	
Net Annual License		**51,660**	**60,413**	**69,825**	**79,860**	**90,630**	
FAR Implementation		25,000					
ByC RPT Implementation		5,000					
Total Annual Costs		**81,660**	**60,413**	**69,825**	**79,860**	**90,630**	**$382,388**
Faculty180, ByC - P&T, ByC - Faculty Search		**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	
Faculty Activity Reporting		44,800	46,600	48,500	50,400	52,400	
Review, Promotion and Tenure		37,300	38,800	40,400	42,000	43,700	
Faculty Search		29,900	31,000	32,200	33,500	34,800	
Total List Annual License		**112,000**	**116,400**	**121,100**	**125,900**	**130,900**	
Multi-year Discount		30.0%	22.5%	15.0%	7.5%	0.0%	
Dollar Discount		(33,600)	(26,190)	(18,165)	(9,443)	0	
Annual License after discounts		**78,400**	**90,210**	**102,935**	**116,458**	**130,900**	
Additional CSU System Discount	15.0%	(16,800)	(17,460)	(18,165)	(18,885)	(19,635)	
Net Annual License		**61,600**	**72,750**	**84,770**	**97,573**	**111,265**	
FAR Implementation		22,500					
ByC RPT,FS Implementation		7,500					
Total Annual Costs		**91,600**	**72,750**	**84,770**	**97,573**	**111,265**	**$457,958**

VI. Analysis

The current online RPT system is unsustainable in the long run: it has severe usability limitations for faculty, it does not prevent the download or distribution of faculty documents, and cannot be scaled up, insofar as access permissions are only assigned manually on the sysadmin side.

If the campus decides to adopt a full-blown digital RPT system, the decision to adopt the Interfolio product is essentially a non-decision, since currently this is the only viable solution that fulfills the requirements of the CSUSB RPT process. Thus, option 1 is sufficient to address

most of the needs of an online RPT system, the needs of a research tracking system, and most of campus research needs.

The ByCommittee module improves the evaluation workflow of the RPT process by enabling committees to collaborate online and greatly expands the reporting capability. Presumably, the full integration of the two services will also provide additional functionality to faculty.

It is not entirely clear if the additional functionality provided by option 2 (with the MyCommittee module added) fully justifies adopting that option. Although the idea of having one digital integrated platform for multiple purposes is intuitively appealing, it is not clear to this author what functionality is needed for the research tracking system envisioned by the authors of the Strategic Plan and whether that functionality is already fulfilled (or could be fulfilled with minimal ITS intervention) by option 1, Faculty180 module. However, should it be the case that the only way to fully insulate the online RPT process from the scholarship tracking/reporting process is via the add of a fully integrated "faculty dossier" available in the MyCommittee module, then option 2 becomes imperative.

V. Recommendation

The Faculty Associate for ATI recommends that the campus consider option 2 on a trial basis with the following four caveats:

(a) Unless under time pressure to achieve a fully digital solution, the campus delays the decision to commit to a contract with Interfolio until full integration of Faculty180 and ByCommittee P&T products is achieved and tested (2018, according to the vendor) and the needs of the research tracking system are established. In particular, care must be taken that any future benefits accrued by the full integrated product are provided at no additional cost;

(b) The data security concerns are addressed contractually;

(c) The vendor provides a viable exit solution, namely, a way to port faculty data **as well as** data structure on a new platform. Alternatively, if the vendor is unable to provide this solution, ITS and Academic Personnel prepare for an in-house solution;

(d) The price is negotiated down by 20%.