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Constats des travaux CASA - Tiger Team

Grands constats

Facteur de risque 1

- La méthodologie du Tiger Team est très rigoureuse et l'esprit de collaboration entre celui-ci et CASA mérite d'être souligné.
- La méthodologie utilisée, bien que très rigoureuse, n'est pas tout à faite conséquente avec les requis de l'appel d'offres de la SAAQ. Nous avons discuté de ce constat avec le Tiger Team mais nous n'avons apporté que très peu d'ajustements par rapport à celui-ci. Nous ne sommes pas en mesure d'affirmer que l'ensemble des mesures de redressement compensent ce constat:
  - Peu de notion de transfert d'expertise et de travail collaboratif. Il s'agit plutôt d'un modèle qui s'apparente à de l'impartition;
  - Pas de notion de traduction entre les différentes étapes;
  - Très fort taux de travail hors-site.
  - Autres requis de l'appel d'offres manquants ?

Grands constats (suite)

- Les estimés de décembre 2018 ont été reconduits pour les chantiers suivants, et aucune discussions n'a eu lieu au cours de la semaine entre le Tiger Team et CASA:
  - Conversion des données (revue mineure à prévoir la semaine 2018/02/25);
  - Infrastructure, Basis et Sécurité (écart très léger);
  - Formation et gestion du changement;
- Suite à une discussion avec QA, les estimés de décembre ont été reconduits pour le chantier suivant:
  - QA et Bureau de programme.

Grands constats (suite)

Facteur de risque 2

- Suite aux nombreuses discussion avec les équipiers de CASA, le Tiger Team a bien compris le contexte du projet et il a apporté un certain nombre d'ajustements à leurs estimés initiaux pour les volets **fonctionnels** et **développement**. Il est difficile d'apprécier pour CASA si ces ajustements sont suffisants:
  - Ajustement pour tenir compte des règles d'affaires;
  - Ajustement pour tenir compte de la complexité apportée par le fait que la livraison 2 se veut la livraison d'une « verticale » SAAQ plutôt que d'un projet SAP standard;
  - Ajustement pour tenir compte de la complexité et de la diversité du paysage technologique pour les développeurs, incluant la présence des CDP;
  - Ajustement pour se coller aux estimés indépendants (DigiCommerce et OpenText).

Grands constats (suite)

Facteur de risque 3

- La comparaison exacte des efforts de la planification de décembre 2018 avec celle du Tiger Team est très difficile à réaliser (comparer des pommes avec des pommes). Par exemple, des heures ont été transférées d'un chantier à un autre, Conversion a été inclus dans Infrastructure technologique, etc. Ceci pourrait amener un certains biais / erreurs de manipulation;
- Compte tenu du temps imparti pour réaliser l'exercice, il peut subsister un certain nombre d'inconnus.

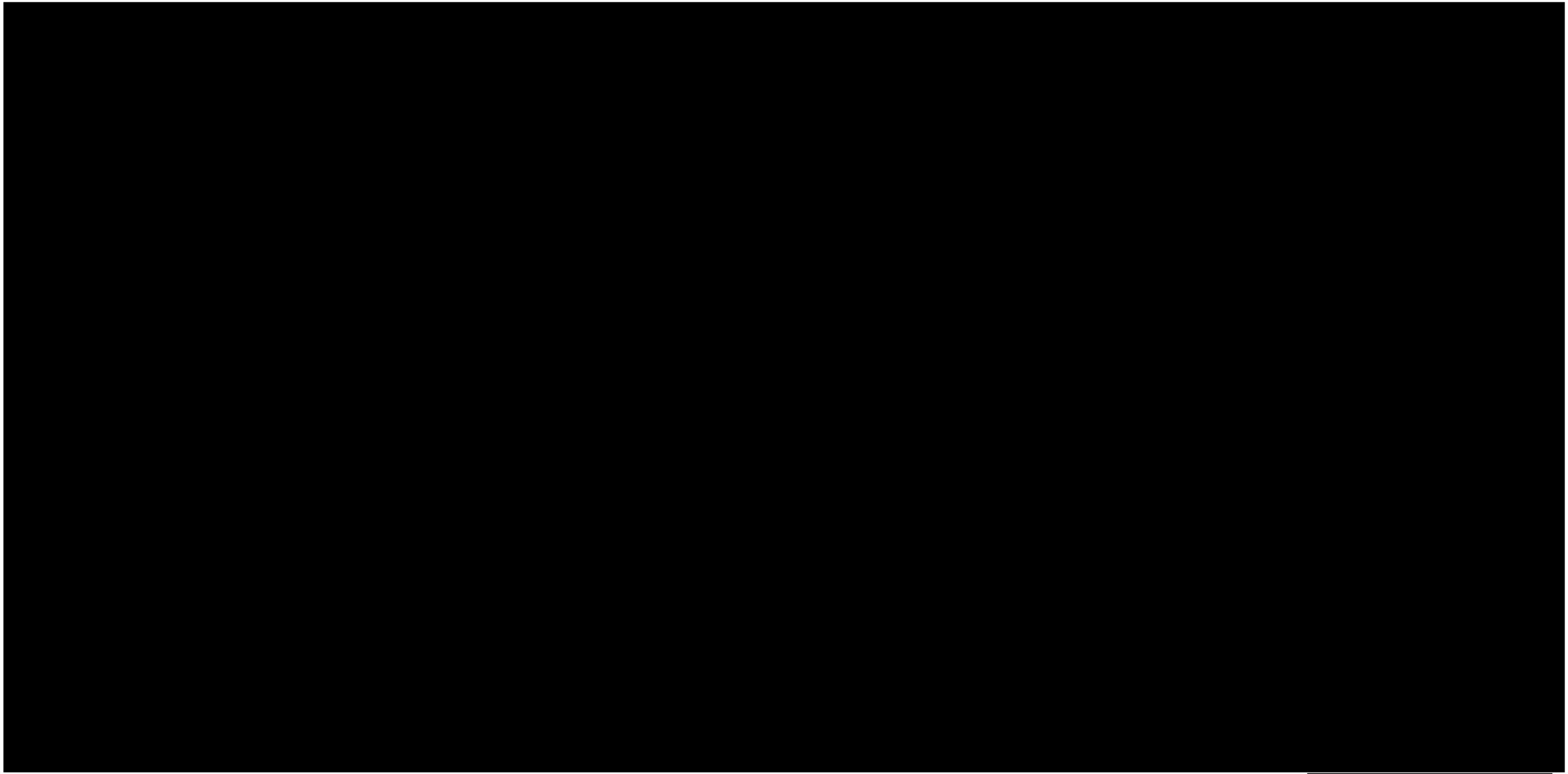
Grands constats (suite)

Facteur de risque 4

- Enjeu majeur sur le Time Line. L'enjeu est amplifié du point de vue du Tiger Team du fait de l'augmentation de la complexité, et par conséquent, de l'augmentation du nombre d'heures requis pour mener le projet CASA à terme. Ce point a été effleuré dans nos discussion, il faut impérativement y revenir, et un plan d'action devra être proposé.
- On doit s'entendre sur un facteur de contingence (10-20% selon le Tiger Team)

Independent and Collaborative Estimation Review Scope

- Following December estimating efforts; IBM's SAP Solutioning Tiger Team brought in to perform independent estimates for L2.
- The Tiger Team initially met with select Alliance teams leads and program leaders to gather information and identify opportunities for optimization.
  - Met with Integration, Data Conversion, Infrastructure BASIS and Security, Application Development, OCM and Training, and the PMO team.
- They then completed the Independent, estimate; utilizing Top Down and Bottom Up Estimating and Benchmarking.
- This estimate was presented to joint leadership week ended 2/8/2019.
- Based on difference vs December estimates; the joint leadership team asked the Tiger to spend a week performing collaborative refinement with the Alliance and SAAQ delivery team to customize the estimate for SAAQ specific factors.
- The Tiger Team and CASA are now collaborating to incorporate SAAQ project specific factors into the estimates.
  - Priority was given to the teams with the biggest differences in the preliminary estimates including the Business Process, Application Development, and QA/PMO teams.
- The results of this initial week collaboration are being reviewed in this session.
- The Data Team had an already planned session with SME's next week; we will stay close to that and determine if it results in any further changes.
- The Tiger Team also would like to collaborate on refining the staffing mix for all teams.



Comparison of Estimates (L10-13 w/o CST)

	Original Hrs	December Re-Plan Hrs	Independent Re-Plan Hrs	Collaborative Re-Plan Hrs	Independent minus Dec plan	Collaborative minus Dec plan
Functional Alliance	99,085	308,209	294,743	365,256	-13,466	57,048
Functional SAAQ	108,420	334,910	173,045	173,045	-161,865	-161,865
Total Functional L2	207,505	643,119	467,788	538,301	-175,331	-104,817
Development Alliance	113,554	356,869	166,932	223,265	-189,937	-133,604
Development SAAQ	35,226	48,625	0	48,625	-48,625	0
Total Development L2	148,781	405,493	166,932	271,890	-238,562	-133,604
Technical Alliance	199,149	215,765	204,907	212,741	-10,858	-3,024
Technical SAAQ	61,779	111,617	106,348	106,348	-5,269	-5,269
Total Technical L2	260,928	327,382	311,256	319,089	-16,127	-8,293
OCM & Training Alliance	24,815	53,245	45,660	45,660	-7,585	-7,585
OCM & Training SAAQ	32,805	36,544	35,116	35,116	-1,428	-1,428
Total OCM & Training L2	57,620	89,789	80,776	80,776	-9,013	-9,013
QA Alliance	38,684	69,505	78,485	78,485	8,980	8,980
QA SAAQ	40,528	93,994	117,011	117,011	23,017	23,017
Total QA L2	79,212	163,498	195,496	195,496	31,998	31,998
Total L2 Alliance	**361,732**	**1,003,592**	**790,726**	**925,407**	-212,866	-78,185
Total L2 SAAQ	**243,532**	**625,690**	**431,520**	**480,145**	-194,170	-145,545
Total L2	**605,264**	**1,629,282**	**1,222,246**	**1,405,552**	-407,035	-223,730

Recap of Collaborative Adjustment

	Effort Estimates (Hrs)
Independent Estimate	**1,222,246**
BPH L3 - ITD reduced from 32% to 20%, added 20% complexity increase	17,283
Test Scripts - ITD dropped from 20% to 0%	9,600
Variants - ITD dropped from 20% to 0%	25,600
FS complexity increased from 3 (Average) to 4 (High), added 5% rework	18,031
WRICEF complexity increased from 3 (Average) to 3.5 (Med-High) (3.5) + DigiCom increased to match contract number	35,283
App Dev On-site Leads & Coordinator increase	13,425
Additional App Dev Services (added BRF and Data components)	56,250
Returned Infrastructure, Security, and Basis to Dec Numbers*	7,834
Collaborative Estimate	**1,405,552**
Standard Estimation Spread At 15%	15%
High Estimate at + 7.5%	1,510,968
Low Estimate at - 7.5%	1,300,136
Tiger Team Recommended Re-Baseline - Low end of Spread	**1,300,136**

Tiger team recommends that the team may want to consider a reduction to the core team for the next 2 months focusing on critical path items of Requirements/Business Rules, Functional Specs and App Dev to prove that progress can be made on the throughput. Once the team gains momentum the team could be ramped back up. Focused team may be 70-80% of originally planned run rate focused on essential resource to critical path deliverables mentioned above

Le calibrage SAAQ – IBM (Top-Down)

Timeline:

WRICEF Objects Throughput Planning

Maximim WRICEF/mos	Example WRICEF Increase	Duration Increase
60-70	700 objects	10 months

Process Teams:

BPH L3

# L3's	Hours/L3*	Total Hours
491	115.2	56,563
	* reflects 20% ITD progress on 120 Total Hours, with a 20% increase in complexity.	

Test Scripts

# Test Scripts	Hours/Test Script*	Total Hours
2000	24	48,000
# Variants	Hours/Test Script Variant*	
8000	16	128,000

Functional Specs

# Functional Specs	Avg Hours/Func Spec	Total Hours
1712	35.0	59,956

	Total Process Team Hours (Top-Down Driver Based)	292,519
	Total Process Team Hours (Bottom-Up FTE Coverage Based)	218,400

App Dev Teams:

WRICEF Objects - Development

# WRICEF Objects	Hours/App Dev Object	Total App Dev Hours
1,575	100.5	158,215

Development Coordinators/Leaders

Lead + Onsite Coordinators	% Onsite*	Lead + Onsite Coordinators:
14.00	30%	57,425
	*vs Standard of 10%	

Additional Duties (BRF, Data Scrambling, etc.)*

Given Hours	Timeline extension (RT, Go Live, Hypercare)	Additional Duties
37,500	18,750	56,250

	Total App Dev Team Hours	271,890

Summary of Project Specific Factors incorporated during collaborative sessions.

- Reviewed timelines, throughput and risk profile. Timeline proposed in December at the top end of benchmarks and throughput will have to improve significantly to achieve the timeline.

- Incorporated ITD Completion factor of 20% for L3 BPH processing; reflecting 80% completion of Configuration. We also increased the base 120 hours/L3 by 15% for Industry Complexity and another 5% for Rework due to Business Rules. ***Collectively agreed on 80% completion of Configuration. Standard estimating model would put this at 32% complete overall. Based on project specific additional duties, collectively agreed to 80% work effort remaining.***

- Testing ITD progress adjusted from 20% complete to 0% complete. ***However, Functional Unit Testing has been completed for the first 2 of 7 cycles.***

- Functional Spec estimates based on a revised complexity curve for objects.
  - Average complexity was changed from Medium (3) to High (4). ***Initially considered a 29.7% over the top increase. This would have implied the average complexity across all 1712 objects was the highest category of Very High (5). Collectively agreed an across the board shift to High (4) was more appropriate.***
  - Also added the 5% factor for Rework due to Business Rules. ***Also discussed potential increase of 15% due to lack of Industry Vertical; but WRICEF's; by their very nature, are a Gap against a Business or Industry Requirement.***

- App Dev Team estimates adjusted for increased complexity curve, changed from Medium (3) to Medium-High (3.5). Also added additional hours for BRF related adjustments, as well as data work supported by the App Dev team rather than the Data team. ***BRF discussed as potential double count.***

- Collaborative Estimates set Coordinator Hours to 3x recommended amount (equivalent to 14 FTEs). This represents 30% coordinator efforts vs. 10% standard. ***Determination must be made about which specific FTEs to maintain, based on skills. SAAQ is determining if this strategy is aligned with Knowledge Transfer objectives.***

- App Dev - DigiCommerce as well as Process Team – OpenText have been retained at the December levels. ***We recommend follow-up confirmation of these estimates.***

Tiger Team independant analysis and recommandations

Calendrier – production de WRICEF est sur le chemin critique.
Le calibrage requiert un plan plafonné à 60 - 70 objets par mois.

Original

Project Period		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
Calendar Quarter		Q4	Q4	Q1	Q1	Q1	Q2	Q2	Q2	Q3	Q3	Q3	Q4	Q4	Q4	Q1	Q1	Q1	Q2	Q2	Q2	Q3	Q3	Q3	Q4	Q4	Q4	Q1	Q1	Q1	Q2	Q2	Q2	Q3	Q3	Q3	Q4	Q4	Q4	Q1	Q1	Q1	Q2	Q2
Implementation Timeline		1-Nov-17	1-Dec-17	1-Jan-18	1-Feb-18	1-Mar-18	1-Apr-18	1-May-18	1-Jun-18	1-Jul-18	1-Aug-18	1-Sep-18	1-Oct-18	1-Nov-18	1-Dec-18	1-Jan-19	1-Feb-19	1-Mar-19	1-Apr-19	1-May-19	1-Jun-19	1-Jul-19	1-Aug-19	1-Sep-19	1-Oct-19	1-Nov-19	1-Dec-19	1-Jan-20	1-Feb-20	1-Mar-20	1-Apr-20	1-May-20	1-Jun-20	1-Jul-20	1-Aug-20	1-Sep-20	1-Oct-20	1-Nov-20	1-Dec-20	1-Jan-21	1-Feb-21	1-Mar-21	1-Apr-21	1-May-21
SAP Release 2 - Original SOW Plan	Project Prep																																											
	Explore	EX	EX	EX	EX	EX	EX																																					
	Realize and Test						RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RT	RT	RT	RT	RT	RT																			
	Deploy																									DP	DP																	
	Hypercare/Sustain																											SU	SU	SU														
	980															140	140	140	140	140	140	140																						
	980		20	40	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	20																								

Le scope d'origine inclut 980 WRICEFs. Avec 60 objets par mois, la cible aurait été 720 le 1er janvier 2019.

W/O CST

SAP Release 2 - Re-Plan (Oct 12, 2020)	Project Prep																																											
	Explore	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX																																	
	Realize Build										RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB													
	Realize Test																						RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT							
Small Pilot Go-live 7/13/2020	Deploy																																	DP										
Business Go-Live 10/12/2020	Deploy																																		DP	DP	DP							
	Hypercare/Sustain																																				SU	SU	SU	SU				
Latest WRICEF count	1712																																	7/13/2020			10/12/2020			1/15/2021 EOP				
Equivalent RICEF - IBM Only (Retouch at .5)	946														5	5	25	45	60	70	70	70	70	70	70	70	70	70	70	70	36													
[redacted]	499															5	15	20	25	30	40	40	40	40	40	40	40	40	40	40	4													
Digicom	103															5	5	5	5	5	8	8	8	8	8	8	8	8	8	6														
Total	1548														5	15	45	70	90	105	118	118	118	118	118	118	118	118	118	116	40													

WRICEFs a augmenté à 1712. Avec 70 objet parmois, ceci requiert 10 mois suplémentaires.

With CST

Timeline with incremental CST WRICEF																																												
SAP Release 2 - Re-Plan (Mar 1, 2021)	Project Prep																																											
	Explore	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX																																	
	Realize Build										RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB	RB								
	Realize Test																						RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT	RT					
Small Pilot Go-live Dec 2020	Deploy																																					DP	DP					
Business Go-Live Mar 1, 2021	Deploy																																							DP	DP			
	Hypercare/Sustain																																									SU	SU SU	SU
Latest WRICEF count including CST	2219																																				12/31/2020			3/1/2021				5/31/2
Equivalent WRICEF - IBM Only including CST	1272														5	5	25	45	55	60	65	70	72	72	72	72	72	72	72	72	72	72	72	72	62	16								
Open Text WRICEF total	610														0	5	15	19	22	35	37	38	38	38	38	38	38	38	38	38	38	38	37	22										
Digicom	103															5	5	5	5	5	10	10	10	10	10	10	7	6	5															
Total IBM + Open Text + Digicom	1985														5	15	45	69	82	100	112	118	120	120	120	120	117	116	115	110	110	110	109	94	62	[redacted]								

CST ajoute plus de 500 nouveaux objets, ce qui augmente encore la durée requise.

Followups required to agree on Alliance/SAAQ Mix as well as Alliance Onsite/Nearshore/Offshore Mix

- Independent and Collaborative Estimates show 65% Alliance/35% SAAQ; but collaborative process was based on the total of both.

- The actual split used for the financial replan may need to be adjusted.

- Independent and Collaborative Estimates differentiate between work effort/capacity hours required and coverage.

- Work Effort/Capacity is Total Effort required regardless of who performs the work as long as they have the right SAP and other technical skills.

- In the Independent and Collaborative Estimates; Work Effort/Capacity was shown in the Alliance bucket while SAAQ hours were primarily shown in the coverage bucket based on knowledge of SAAQ legacy process, variants and data. In addition; SAAQ coverage was differentiated between full time and part time SME's. We highly recommend more extensive use of SME's; especially for niche skills. Our SAAQ coverage hours and FTE's were based on this more extensive use of SME's.

- SAAQ asked that the team combine the Alliance and SAAQ numbers throughout the collaborative exercise to facilitate easier comparison to total estimates.

- Alliance Resource Mix in the December plan was identified as significantly outside the standard model. The collaborative team has not looked at this mix. Follow up is highly recommended for the Financial replan.

Inception to Date Challenges

- Functional Specs and WRICEF are on the critical path of this project. Under the current counts and proposed timeline; the team will need to be able to produce upwards of 118 objects per month for an extended period which is at the top end of benchmarks. However; inception to date the team has only completed 80 Functional Specs and 20 WRICEF objects since July.

- Much of the work from July 2018 to Feb 2019 has been finishing Blueprint/Explore; especially in the area of Requirements Definition of Business Rules. A BRF product has been utilized to assist with this process. Teams point to frequent changes and additions to Business Rules resulting in delays and rework.

- Concerns were also raised over the Vertical/Industry Specific complexity and lack of fit to any standard processes or assets. SAP [redacted] and IBM's assets and pre-configured solutions come in 2 flavors - Industry Specific and Cross Industry. Under a typical scenario; there are anywhere from 60% to 80% process commonality across industries; with only 20% - 40% process variability as a result of industry specifics. Process Team leads are suggesting that the variability here is approaching 100% across Level 3's for L2. This high level of industry specific variability has contributed to an increased design time vs estimating model standard times.

Tiger Team Recommendations

- Need to refocus team efforts on critical path:
    - Requirements & Business Rule finalization
    - Functional Spec throughput
    - WRICEF Development throughput
- CASA team may want to consider a reduction to the core team for the next 2 months focusing on critical path items mentioned above to prove that progress can be made on the throughput. Once the team gains momentum the team could be ramped back up. Focused team may be 70-80% of originally planned run rate focused on essential resource to these critical path deliverables.
- Tremendous # of workstreams going with heavy monthly burn rate. May need to reduce team size until critical path throughput can be brought in line with targets and sustained.
- Review inventory of WRICEF's and identify rationalization opportunities for must have vs nice to have, maybe picking up from the December exercise. This rationalization will be particularly important to allow for addition of CST to the integrated program. At 1712 WRICEF's; the monthly throughput is already maxed so timeline would need to increase to accommodate CST's 500+ WRICEF's unless the 1712 can be reduced to "make room" for CST.
- Collaborative Focus has been on the teams with the biggest gap between December and Independent. Recommend continued joint refinement of estimates around Data, PMO/QA, OCM/Training, Infrastructure/Security and BI.