MEETING DATE:
Tuesday, June 12, 2018

FROM : TREASURER-TAX COLLECTOR:

SUBJECT: TREASURER-TAX COLLECTOR: Approval of Quantum Treasury Software License Order Agreement with FIS Avantgard LLC, District All. [$667,125 - 100% TPIF's interest earnings] (4/5 Vote)

RECOMMENDED MOTION: That the Board of Supervisors:

1. Approve the License Order Agreement ("Agreement") with FIS Avantgard LLC to upgrade the Treasurer's Financial System Software, without securing competitive bids in accordance with Ordinance No. 459, in the amount of $667,125, substantially in the form attached; and
2. Authorize the Treasurer-Tax Collector to execute the Agreement, subject to approval as to form by County Counsel, on behalf of the County; and
3. Direct the Clerk of the Board to return 3 copies to the Treasurer-Tax Collector for execution and distribution, including receipt of one copy back to the Clerk of the Board; and
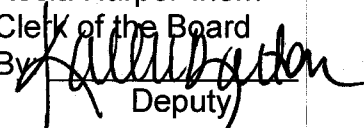4. Direct the Auditor-Controller to process budget adjustments on Attachment A.

ACTION: Policy, 4/5 Vote Required

Jon Christensen, Treasurer-Tax Collector   5/31/2018

MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Tavaglione, seconded by Supervisor Perez and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes:	Jeffries, Tavaglione, Washington, Perez and Ashley
Nays:	None
Absent:	None
Date:	June 12, 2018
xc:	Treasurer, Auditor

Kecia Harper-Ihem
Clerk of the Board
By
Deputy

FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost
COST	$ 667,125	$ 0	$ 667,125	$ 0
NET COUNTY COST	$ 0	$ 0	$ 0	$ 0

SOURCE OF FUNDS: Treasurer's Interest Earnings Fund 100%	Budget Adjustment: Yes
	For Fiscal Year: 17/18

C.E.O. RECOMMENDATION: Approve

BACKGROUND:

Summary

The Treasurer-Tax Collector purchased the Treasurer's financial system in 1987 (license agreement dated 7/31/87). On April 13, 1999, the Board approved a License Agreement with ADS Associates (dba SunGard Treasury Systems) to upgrade the Treasurer's financial system from a DOS system to a windows environment and to warrant that the software was 2000 compliant. Now, the current software system will no longer be supported by the vendor; therefore, the proposed License Order Agreement will upgrade the Treasurer's financial system to continue the Treasurer's duties of managing and investing the funds of the County. FIS Avantgard LLC is the successor-in-interest to ADS Associates. This agreement is a continuance of the contractual relationship that the County has maintained for this service.

Impact on Residents and Businesses

No impacts on citizens and businesses.

Contract History and Price Reasonableness

In 1987, County entered into an agreement for the Treasurer's financial system. In April 1999, the County upgraded the Treasurer's financial system and entered into an agreement with ADS Associates for a base system cost and configuration costs.

Because Quantum Treasury from FIS Avantgard LLC (Resource IQ2) is an upgrade to the existing financial system, we have been given a discount. The base system value is $705,000 and our cost with the discount is $343,125. The additional cost of $324,000 in professional service hours is necessary to customize the base system to meet our customized accounting needs.

As the software provides an essential tool for investing and managing the TPIF, these costs will be paid for by the interest income the pool generates and requires no General Fund contributions.
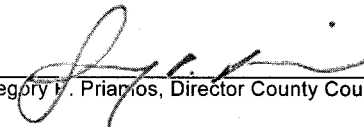
ATTACHMENTS:

SCHEDULE A.   <u>**BUDGET ADJUSTMENT**</u>
See Attachment A.

License Order Agreement with SOW

Misley Wang
Misley Wang, Supervising Accountant   6/4/2018

Gregory P. Priamos, Director County Counsel   6/6/2018

Jim Smith
Jim Smith, Chief Technology Officer   6/6/2018

ATTACHMENT A

INCREASE APPROPRIATIONS:

10000-1400100000-521640	MAINTENANCE - SOFTWARE	343,125
10000-1400100000-525440	PROFESSIONAL SERVICES	324,000
	TOTAL	667,125

INCREASE ESTIMATED REVENUE:

10000-1400100000-777470	REIMB-MONEY MAX ADMIN	667,125

RIVERSIDE COUNTY INFORMATION TECHNOLOGY PROCUREMENT FORM

H11 Number:	PR2018-07090		
Requested Purchase:	FIS Quantum Treasury System Upgrade		
Department/Agency:	Treasurer-Tax Collector		
Primary Contact/Phone:	Giovane Pizano/951-955-3944	Alternate Contact/Phone:	DEBBIE BASHE/
Purchase Request Type:			
Describe Requested Purchase:	Agreement with FIS Avantgard LLC to upgrade the Treasurer's Financial System Software.		
Terms:	Is this a Multi Year Contract?: False Length of Contract: Start Date: End Date: Special Terms and Conditions:		
Business Needs Addressed:	The software is an essential tool for investing and managing the TPIF. The current ResourceIQ software has reached end of life and will no longer be supported.		
Are there other county systems that provide the same functionality?		No	
Business Criticality:	Run the Business		
Business Impact:	Support Current Operations, Improve Operational Efficiencies		

Current Cost Itemization (Include all the year 1 cost)

Item Description	Purchase Type	Vendor	Quantity	Unit Cost	Sub_Total	Item Tax	Total Cost
FIS Quantum License	Software - Upgrade	FIS	1	$343,125.00	$343,125.00		$343,125.00
Professional Services for Upgrade	Professional Services	FIS	1	$324,000.00	$324,000.00		$324,000.00

Annual Costs

Item Description	Payment Type	Terms (In Years)	Payment amount	Total Annual Payments
Annual Support	778340000	5.00	$68,625.00	5
		Subtotal Annual Costs:		$343,125.00

Accounting String
To be completed for pass-thru purchases that will be processed by RCIT Only

%Billed	Accounts (6 digits)	Dept.ID (6 -10 digits)	Program (5 digits)	Class (5 digits)	Grant (9 digits)	Customer Project Code (10 digits)

Department Head or Authorized Designee Signature: Jon Christensen	Date: 5/31/2018 1:34 PM

RCIT Review (Standard purchases and renewals < $25000) - Administrative Review Status

Recommended:	By:	Date:
Denial Explanation:		

ACIO Review - ACIO Review Status

RIVERSIDE COUNTY INFORMATION TECHNOLOGY PROCUREMENT FORM

Recommended:	YES	BY:		Date:	6/5/2018
Denial Explanation:					

CIO Review (Purchases and renewals >$100K) CIO Review Status					
Recommended:		By:		Date:	
Denial Explanation:					
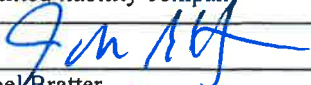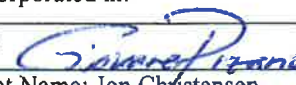
TSOC Review (Purchases and renewals >$100K) TSOC Review Status					
Recommended:	yes	By:		Date:	6/16/18
Denial Explanation:					

By the signatures of their duly authorized representatives below, the FIS entity identified below and the Client identified below ("Client"), intending to be legally bound, agree to all of the provisions of this Order, and agree that this Order represents a separate contract between such FIS entity and Client, with an order effective date of _06|13_, 2018 ("Order Effective Date"). This Order incorporates and is governed by all of the terms of the FIS Standard Terms Conditions Global Version 2017.July to be found at https://www.fisglobal.com/Solutions/Institutional-and-Wholesale/legal-agreements ("FST") as if the FIS entity was "FIS" and Client was "Client" thereunder.

Capitalized terms not defined in this Order have the meaning given them in the FST.

FIS AVANTGARD LLC	County of Riverside
a California limited liability company	Incorporated in:
By: _(signature)_	By: _Giovane Pizano_ for Jon Christensen
Print Name: Joel Bratter	Print Name: ~~Jon Christensen~~ Giovane Pizano
Print Title: Director of Finance	Print Title: ~~Treasurer-Tax-Collector~~ Chief Investment
Date Signed: 15-Jun-2018	Date Signed: 6/13 Manager

FIS ORDER # 00416066 L# 001545

FORM APPROVED COUNTY COUNSEL
BY: _Synthia M. Gunzel_ 5-31-18
SYNTHIA M. GUNZEL   DATE

SOLUTION AND RELATED INFORMATION

1. **SOLUTION:** AvantGard Quantum

Quantum as further described in the Solution Description below

2. **DOCUMENTATION:** Standard user documentation

3. **INITIAL LICENSE TERM:** Perpetual. ~~Shall be effective concurrently with any Support Terms approved by the parties and shall remain in effect so long as the Support Term is in effect.~~ _JR_ _dh_

4. **SCOPE OF USE**

   a. **DESIGNATED LOCATION(s):** 4080 Lemon Street, 4th Floor, Riverside, CA 992502-2205

   b. **NUMBER OF CORE NAMED USERS:** 25

   NUMBER OF LITE NAMED USERS: 0

   "NAMED USER" means an individual with a unique log on identification and password and a unique row in the user table in a single session login. A Named User may be transferred to another individual with a different unique log on identification and password by removing the previous Named User from the user table in a single session login. However, such transfer of any Named User may not be performed more than once in a twenty-four (24) hour period.

   c. **NUMBER OF PRODUCTION DATABASES:** 1

5. **FEES**

   a. **LICENSE FEES:**

6.12.18   3.40

(i) Solution License Fee USD $343,125.

(ii) 100% of the Solution License Fee is due and payable upon the Order Effective Date.

    b. SUPPORT FEES:

(i)   USD $68, 625 per annum.

(ii) Payable from the Order Effective Date billed annually in advance.

    c.   PERCENTAGE INCREMENT: 5% (as referenced in the definition of Price Index Change set forth in Section 11.2 (bb) of the FST)

    d.   PRICE INDEX: "Price Index" means the U.S. Employment Cost Index ("ECI") – Civilian: All Workers total compensation, as published by the U.S. Bureau of Labor Statistics (www.bls.gov).

6. SUPPORT TERM

    a. INITIAL SUPPORT TERM: Sixty (60) months from the Order Effective Date.

    b. RENEWAL SUPPORT TERM: Upon expiration of the Initial Support Term, on-going support services shall renew pursuant to a written amendment duly approved and executed between the parties.

7. SCHEDULED INSTALLATION DATE: A date to be agreed between the parties which shall be no later than forty-five (45) days from the Order Effective Date.

8. PROFESSIONAL SERVICES

_180 3ʳ ᵈⁿ_ (handwritten)

    a. DESCRIPTION OF INITIAL IMPLEMENTATION SERVICES: Estimate of ~~232~~ days to perform the tasks further described below in the Initial Implementation Services section of this Order ("Initial Implementation Services"). This estimate is provided based on Client's known requirements documented at the time this Order is signed and does not represent a commitment to complete the Initial Implementation Services within this estimate, with actual effort potentially more or less than this estimate.

    b. DESCRIPTION OF INITIAL TRAINING: As described as part of the Initial Implementation Services, if any.

    c. TARGET START AND COMPLETION DATE(S) FOR THE INITIAL IMPLEMENTATION SERVICES: Dates as described in the mutually agreed upon statement of work ("SOW") (Statement of Work for Quantum Treasury Implementation, dated May 24, 2018, attached hereto as Schedule B ("Schedule B SOW") and incorporated herein).

    d. PROFESSIONAL SERVICES FEES APPLICABLE TO THIS ORDER: USD $1,800 per day excluding expenses and applicable taxes, valid for the duration of the Initial Implementation Services only.

_180 ᵈⁿ_ (handwritten)

    e. MINIMUM DAYS: The minimum commitment in relation to the Initial Implementation Services shall be ~~232~~ days ("Minimum Days"). In the event that the Minimum Days have not been utilized within twelve (12) months from the Order Effective Date (or such earlier date if this Order is cancelled by Client), FIS may invoice Client for the unused days at the applicable day rate, togther with any expenses incurred by FIS and not yet invoiced (which expenses FIS cannot have waived by taking reasonable steps).

    f. EXPIRY OF THE INITIAL IMPLEMENTATION SERVICES: The terms of this Order relating to the provision of the Initial Implementation Services shall, unless otherwise agreed by the parties, automatically expire twenty-four (24) months from the Order Effective Date.

g. **Intentionally Omitted.**

h. **TRAVEL TIME AND WEEKEND/HOLIDAY RATES:** Travel time to and from Client's locations and other travel undertaken by FIS staff relevant to the performance of this Order is chargeable at fifty percent (50%) of the above rates. If the parties mutually agree that FIS will provide professional services on a weekend day(s) or a FIS holiday, the applicable rates shall be one hundred fifty percent (150%) of the normal rates.

i. **POSTPONEMENT, RESCHEDULING OR CANCELLATION OF PROFESSIONAL SERVICES.** If Client wishes to postpone, reschedule or cancel part of the professional services (which in the case of training services includes non-attendance) agreed in this Order (by notice in writing to FIS), the following charges (if any) shall apply, together with any expenses incurred by FIS (and which FIS cannot have waived by taking reasonable steps):

    a. If FIS receives the notice of postponement, rescheduling or cancellation less than ten (10) working days prior to (but before) the agreed commencement date of the relevant professional services, a charge of 50% of the agreed rates for such Professional Services shall apply, up to a maximum of ten (10) days per consultant.

    b. If FIS receives the notice of postponement, rescheduling or cancellation on or after the agreed commencement date of the relevant professional services, a charge of 100% of the agreed rates for such Professional Services shall apply, up to a maximum of ten (10) days per consultant.

9. **ADDRESSES**

    a. **CLIENT ADDRESS FOR INVOICES: Riverside County, 4080 Lemon Street, 4th Floor, Riverside, CA 92502-2205**

    b. **CLIENT ADDRESS FOR NOTICES: Riverside County, 4080 Lemon Street, 4th Floor, Riverside, CA 92502-2205**

    c. **FIS' ADDRESS FOR NOTICES:** FIS AvantGard LLC, 600 Lanidex Plaza, Parsippany, NJ 07054 ATTN: Contract Administration

10. **ESCROW:** No.

11. **OTHER TERMS:**
    (a) No Third Party Data and Services will be provided under this Order.

    (b) EEA PERSONAL DATA. Is EEA Personal Data being Processed: **No**

    (c) Section 11.13 of the FST is modified to change the governing law to the State of California, exclusing choice of law, and to change the jurisdiction to the applicable state or Federal court in Riverside, California. All other terms of Section 11.13 shall remain unchanges.

MODULES

The License Fees are based on the number of Modules and Named Users as defined in this Order.

Quantum	Modules included in this Order
Base System	
Core Processing & Reporting Analytics Valuations Standard Reporting & Importing Services Dashboard Internationalisation Resource Security Deal Sets Scheduler EFTs Data Loader Message Status Update Service Market Data Manager Deal Mirroring	YES
Cash Management & Forecasting	
- Account Reconciliation	YES
- CashXplorer (Cash position worksheet)	YES
- Cash Transaction (Flows & Transfers)	YES
- Cash Forecasting	YES
- Wires	Yes
Accounting Modules	
- Standard Accounting	YES

Transactions Modules	
- Money Market, Debt and Investments	YES

SPECIFIED CONFIGURATION

Schedule B SOW for Quantum v. 6.7.

INITIAL IMPLEMENTATION SERVICES

As described in the Schedule B SOW.

SUPPORT

NORMAL SUPPORT HOURS: 8 AM to 6 PM PST (Monday through Friday, excluding FIS holidays)

METHOD OF REPORTING ERRORS: AvantGard Service Desk

SUPPORT TERMS:

1.	FIS product specialists shall provide to Client, during FIS' normal support hours as set forth above ("Normal Support Hours"), assistance regarding Client's proper and authorized use of the Supported Release.

2.	FIS product specialists shall provide to Client, during Normal Support Hours, commercially reasonable efforts in solving Errors reported by Client in accordance with this Support section of the Order. Client shall provide to FIS reasonably detailed documentation and explanation, together with underlying data, to substantiate any Error and to assist FIS in its efforts to diagnose, reproduce and correct the Error. If a reported Error did not, in fact, exist or was not attributable to a defect in the Solution or an act or omission of FIS, then Client shall pay for FIS' investigation and related services at FIS' professional services rates then in effect.

3.	FIS' periodic Releases shall be installed such that Client remains on a Supported Release. The preceding sentence notwithstanding, any Release provided by FIS shall be promptly installed and/or use to avoid or mitigate a performance problem or infringement claim. All modifications, revisions and updates to the Solution shall be furnished by means of new Releases of the Solution and shall be accompanied by updates to the Documentation whenever FIS determines, in its sole discretion, that such updates are necessary.

4.	During project implementation Client shall channel all requests for assistance ("Support Requests") through their nominated FIS project team. Following the first day that Client uses the Solution in a live production environment, all Support Requests shall be logged with FIS by Key Users (as defined below) via the AvantGard Service Desk online incident logging system. **"Key Users"** are those users nominated by Client who have working knowledge of the Solution and for whom use of the Solution is core to their day to day activities. When an Error is believed to have occurred, the Key Users shall first investigate internally to substantiate the Error and use good faith efforts to determine the cause of such Error before referring the Error to FIS (if still necessary).

5.	The AvantGard Service Desk is contactable via the on-line incident logging system located at the following URL - https://support.sungard.com/avantgard. FIS shall notify Client of any change in the foregoing URL. Where such incident logging system is not accessible at the then current URL, then Client personnel shall notify FIS using the contact details provided by FIS to Client from time to time. Support Request logging documentation is made available within the AvantGard Service Desk to users of the Solution.

6.   Each Support Request shall be assigned a mutually agreed priority level based on the reported Impact and Urgency of the Error, as such terms are defined below.

"**Impact**" means a measure of how widespread the Error is based on the percentage of Client's users impacted by the Error.

"**Urgency**" means a measure of the severity of the Error based on its potential effect on the Client's business and the time period in which such effect is expected to occur.

Priority Levels:

Priority Classification	Definition	Initial Response Target (during Normal Support Hours)	Guideline for Escalation of Unresolved Support Request (during Normal Support Hours)
A	An Error that renders the Solution inoperative, or causes the Solution to fail so as to make use of the Solution seriously impractical, and significantly interrupts production use by Client.	1 business hour	2 business hours
B	An Error that materially impacts the performance of the Solution in a negative manner or materially restricts Client's use of the Solution.	4 business hours	1 business day
C	An Error that causes only minor impact on Client's use of the Solution or an Error that is not a Priority Classification A or B.	1 business day	3 business days
D	A general question concerning the use or implementation of the Solution.	Promptly, in light of the nature of the question.	No escalation

7.   A Support Request shall be deemed to have commenced at the time when the issue is logged in FIS' on-line incident logging system (or, if such system is not accessible, at the time otherwise reported to FIS). FIS shall provide an email notification to Client when it begins working on the issue.

8.   In the course of handling a Support Request, it may become necessary to escalate issues to FIS' senior support staff and/or such other FIS resources as deemed appropriate. Escalation will occur when a product specialist is unable to resolve a Support Request within the Escalation Target timeframe. Client acknowledges that product specialists may also request the advice of senior FIS resources when analyzing Support Requests without officially escalating the case to them.

9.   Through the incident management process, it may also become necessary for Client to escalate issues within its organization, including Client's IT department or third party hardware and software vendors. FIS may request Client's escalation plan under such circumstance. During escalation of a Support Request, both FIS and Client will provide timely progress updates covering their own responsibilities.

10.   Where Client is not able to provide the FIS product specialist(s) with access to the Solution remotely during the investigation process or is not able to provide sufficient information to document or resolve the Error, as is reasonably requested by FIS, Client acknowledges that a site visit may be required to facilitate a resolution. If Client approves such a site visit, Client shall be separately charged fees at FIS' then current standard professional fee rates for time spent at the Client's site, as well as any required travel and out of pocket expenses in accordance with Section 6.3 of the FST. If Client does not approve the site visit, then FIS shall not be liable in relation to the unresolved Error.

PROJECT DELIVERY FRAMEWORK

Table of Contents

FIS

INTRODUCTION

The implementation of large, business critical applications requires a broad range of specialist skills. FIS has a proven track record of successfully implementing large projects within the corporate finance industry. The growth and size of our client base is evidence of our ability to support and maintain long-term client partnerships.

The purpose of this document is to describe some of the key elements of the FIS Services Framework based on industry standard practices tailored to FIS's financial systems. This methodology has been specifically designed with the intent of providing a complete and continuous level of service, regardless of whether that client is just beginning their implementation or has been live on the system for several years. The different stages require varying levels and types of support and this document will explain the roles and where they are applicable. The FIS project structure follows generally accepted project management protocols based on a collaborative effort whereby both the client and FIS work together to achieve a common objective.

FIS SERVICES OVERVIEW

The Services group within FIS consists of several highly experienced and qualified business and technical consulting teams within the FIS business including Treasury, Payments, Messaging and Hosting. The global consulting team provides localized consulting and implementation services around the world via physical offices in over 30 countries.

The teams are headquartered in three regional locations; EMEA, the Americas and Asia Pacific. Within all regions, the consultants are highly mobile and for a significant proportion of the project implementation they will operate on the client site integrated with the client's project team and key systems' users.

The implementation teams are comprised of consultants who have gained substantial experience from the respective domains in business and technology combined with internal and external education as well as critical 'on-the-job' experience. The services team is therefore ideally qualified and structured to implement the Treasury, Payments and Messaging systems suite within FIS's global reach.

For multiple product or multifaceted implementations, a program manager will be appointed. The program manager ensures the implementation of each system is managed jointly and, depending on the agreed stages of the implementation will ensure with the client's project manager that the dependencies between the tasks associated with the project are accurately managed and resources deployed. Each system requires different processes within the project and therefore within each project, a project manager is appointed to manage the product specific detail and domain expertise required. Additional resources in the form of Client Service Representatives and Service Delivery Managers are also engaged at the commencement to ensure that FIS is well prepared to support the client once the transition from implementation to steady state occurs. Client Service Representatives will serve as the primary support at the application level, while the Service Delivery Managers ensure a comprehensive approach across all products and services being provided while also serving as the single point of contact for any service related escalations and ensuring all contractual obligations and Service Level Agreements are met.

Project management

There are five Process Groups to complete the FIS solution implementation with a sixth group that overlays the entire methodology:

> Conception & Initiation
> Plan & Define
> Execute & Build
> Control & Test
> Close
> Monitoring and Control (start to finish)

Each Process Group includes one or several Processes depending on the systems being supported.

The majority of projects follow a traditional waterfall approach with as much analysis and design is performed at the beginning of the project ensuring the build and configuration processes are governed by well thought out requirements that have been matched with expected functional workflows and data structures. However, this process is not so inflexible as not to encourage an agile process at specific points in the implementation particularly around any custom configuration. Through our multi-functional workshops, classroom style as well as informal training it is then possible to revise and fine tune the structures and workflows prior to signing off each relevant task or phase.
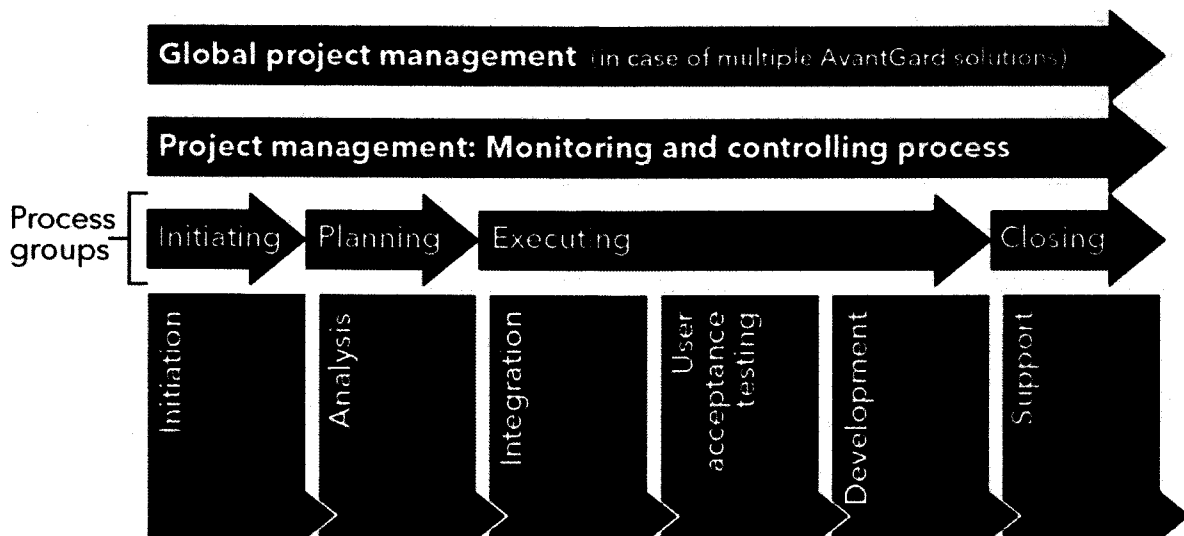
can we edit this flow to use the FIS Process steps above?

Projects are implemented with an integrated team of Client and FIS resources, the key roles of which are described in section 5. If several FIS systems are being implemented, a Global Program Manager will be assigned to ensure coordination between different FIS teams. As clients transition

FIS

from implementation to service operations the client will see a transition from the Professional Services teams to the Client Services teams.

Client service model overview

Following the successful deployment of the system, responsibility for service delivery will transition to the Client Services team at a minimum as well as the Service Delivery Managers if the implementation was deployed as a hosted or ASP solution.

Client services

Depending on your method of deployment either your monthly service fee or support and maintenance fees provide our clients with access to the Client Services team who can assist with daily issues that are encountered. This includes the resolution of product issues identified with existing functionality and updated documentation which can be released in the forms of hot fixes, service packs or a next generation release.

The standard services we provide include:

> Access to Client Service Representatives with domain and product expertise

> General support of issues and advice on user queries

> Queries or issues experienced with the use of FIS products. More often than not, issues that may arise can be solved with communication with Client Services. In situations where this is not the case, it is the Client Services team who will advise the necessary steps to take the issue to the next level.

> Access to a client dashboard to view the status of service requests, retrieve product documentation and access to the Knowledgebase

> For clients who deploy to a hosted or ASP solution, the infrastructure involved in supporting the application and access are also supported including issues such as lost connectivity, hardware issues as well as database and general infrastructure maintenance.

Service delivery management

It is the responsibility of the Service Delivery Manager to ensure that the deployed services are operated and supported at a level in which meets or exceeds the Service Level Agreement (SLA) targets that have been established and agreed upon.

The standard services we provide include:
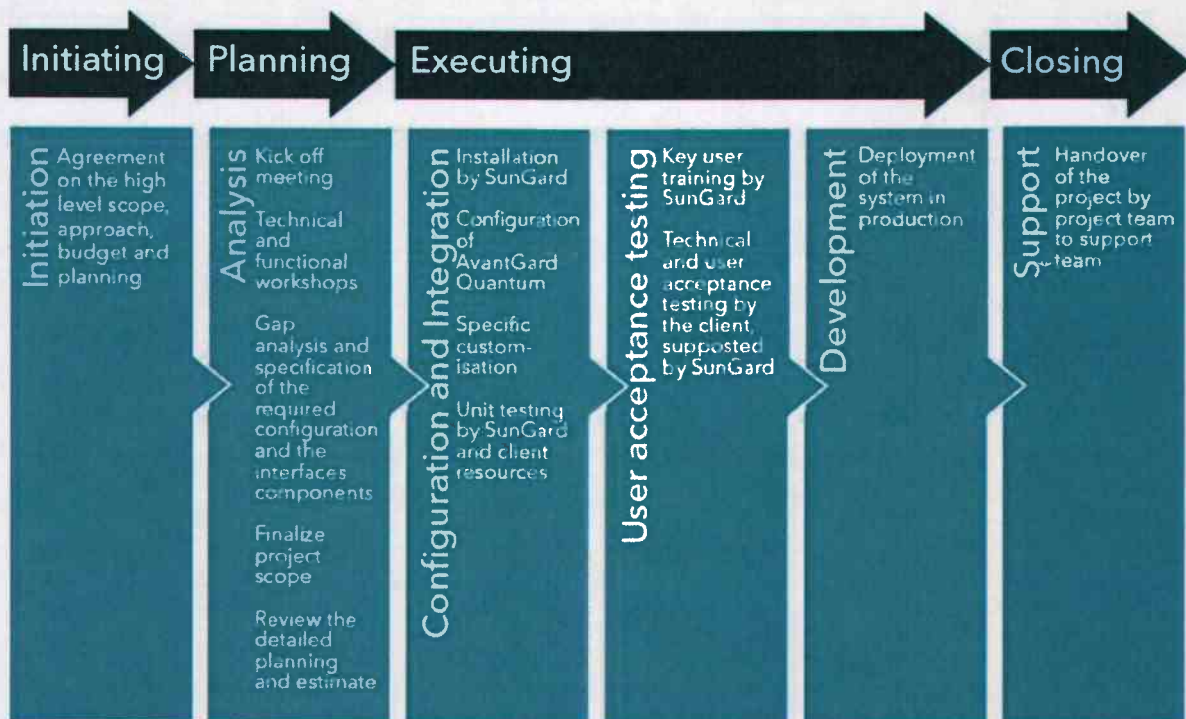
> Provide a single point of contact for client contact and escalation

> Service Level Reporting and Documentation

> Coordination of restoration resources to ensure that any hosted or manages services are restored quickly and effectively

> Service Level Reporting and Documentation

> Ensure proper controls are in place in accordance with the Managed IT services agreement

Optional services in the form of Comprehensive Service Delivery include:

> Program ownership and coordination of all aspects of your FIS service including the reporting on stakeholder defined success criteria to ensure the realization of defined goals or benefits

> Creation of the Service Operations guide detailing all aspects of implementation including key business and process workflows, critical support requirements and the infrastructure and interface topology and other critical service components

> Effective management of service through proactive and ongoing health monitoring, specifically through identifying continuous improvement opportunities

> To periodically meet with client at mutually agreeable intervals to discuss performance of the Managed IT services

FIS PROJECT LIFECYCLE

For a typical implementation, the project management methodology is as follows:

Initiating	Planning	Executing			Closing
Initiation	**Analysis**	**Configuration and Integration**	**User acceptance testing**	**Development**	**Support**
Agreement on the high level scope, approach, budget and planning	Kick off meeting

Technical and functional workshops

Gap analysis and specification of the required configuration and the interfaces components

Finalize project scope

Review the detailed planning and estimate | Installation by SunGard

Configuration of AvantGard Quantum

Specific custom-isation

Unit testing by SunGard and client resources | Key user training by SunGard

Technical and user acceptance testing by the client, supposted by SunGard | Deployment of the system in production | Handover of the project by project team to support team |

Project Conception & Initiation Process

Conception & Initiation

This stage is the starting point of the project and is performed by the Professional services team with assistance as necessary from the account management and presales team.

The purpose of the scoping exercise is to enable FIS to understand and evaluate the Client's requirements and document the agreed services and deliverables associated with the implementation of FIS. FIS's team will conduct on-site meetings with the Client's Project team and key business users analyzing requirements with the ultimate goal of delivering the final Project Scoping documents in the form of a Statement of Work and initial Project Plan. The deliverables from the Scoping exercise are expected to be:

A Project Scoping document that; 1) details aspects of the system that will be delivered during the implementation based on the client's requirements including key deliverables such as relevant modules and interfaces and 2) services to be delivered for implementing and supporting the system. The Scoping will also include an analysis of custom software configuration such as interfaces, report configuration, business process and static data configuration, testing, training and project organization.

The end goal prior to contract execution is for FIS and the client to have full transparency with regards to the specific tasks to be completed, the timing of these and the resourcing required. To assist in this process, FIS will provide a client specific project plan that will be used as a base to commence the project. It is expected that the plan will be a living document that is adjusted regularly as each Process flushes out additional delivery detail, all under the pretext of a strict change management process to ensure any changes to scope, financials or project timing are communicated quickly and clearly.

There are five broadly inter-related areas to be undertaken when planning the project:

1. Determine the **tasks** that will be required during the course of the project. This will involve close negotiation between the client and FIS to identify requirements in detail and how these will translate into specific tasks. Completion of the most significant tasks can be built into the plan as milestones to create a manageable framework for the project.

2. Adequate and realistic **resourcing** of a project is the most important single factor ensuring its success. The particular skills and time which can be made available by staff from either team should be considered as early as possible and any future resourcing problems or shortfalls isolated at this stage in order that the project timing can be amended or staffing adjustments made as required. This is the first opportunity for the executive sponsors to mitigate any project roadblocks. Depending upon client preference, project plans can be resource loaded or FTE charts provided by resource type (e.g. investments, accounting, project management)

SunGard by Resource

Resource Category	Days	% of Project	Days/Mo	FTE
PM	44	8%	2.75	0.17
Tech Consultant	17	3%	1.06	0.07
Development	61	11%	3.81	0.24
Functional Consultant	111	20%	6.94	0.43
Reporting	23	4%	1.44	0.09
Totals/Averages	**256**	**45%**	**16**	**1.00**

SunGard by Resource — PM, Tech Consultant, Development, Functional Consultant, Reporting
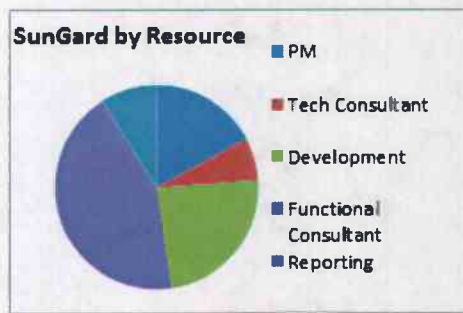
Customer by Resource

Resource Category	Days	% of Project	Days/Mo	FTE
Project Management	43	21%	2.69	0.17
Cash Management	56	28%	3.50	0.22
Accounting	33	16%	2.06	0.13
FX/Derivatives	29	14%	1.81	0.11
IT	5	2%	0.31	0.02
Inv/Debt	15	7%	0.94	0.06
General	22	11%	1.38	0.09
Totals/Averages	**203**	**100%**	**13**	**0.79**

Customer by Resource — Project Management, Cash Management, Accounting, FX/Derivatives, IT, Inv/Debt
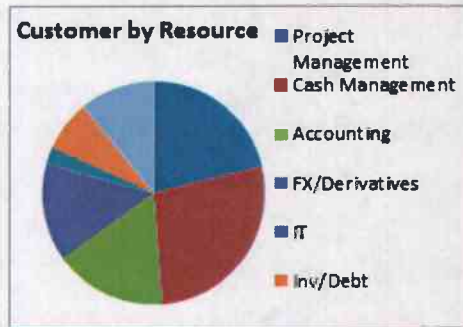
3. Having considered the above, the **timing** of the project can be mapped as accurately and realistically as possible. Other factors taken into account are the number of regions involved, any client specific priorities (e.g. a legacy cash system must be replaced as a top priority) or volumes of transactions and static data ensuring that the proposed timescales are reasonable. A clear definition of any project phasing, with regards to regional or functional rollout should be documented within the project plan.

4. With multidimensional project teams, individuals are likely to have a broad range of **responsibilities** resulting in a variety of expectations of how the project will progress and how the success of different stages of the project should be measured. These various concerns and interests should be discussed during the initial Project Commencement meeting in order that a reasonable and acceptable set of critical success factors for the project, both in its different stages and in its entirety, can be drawn up to the satisfaction of all parties.

5. The Project Commencement meeting will be held at the beginning of the project. Business and Project issues are raised during this meeting and all project team members and stakeholders review the project plan. This meeting also provides an opportunity to ensure that all project team members, from executive sponsors to report writers are clear on their respective responsibilities and expectations throughout the project.

Following the project planning session, a further detailed plan will be agreed that encompasses the following basic activities:

- > Review Technical Environment
- > Install Hardware and Software
- > Blueprinting & Design
- > Project Team Training
- > Define System Support Procedures
- > Gather and Workshop Static Data
- > Enter and Reconcile Static Data
- > Procedure Prototyping
- > Reports and Confirmations
- > System Interfaces
- > System Testing
- > User Training
- > Parallel Run
- > "Going Live"
- > Post Implementation Review

Deliverables

PROCESS	DELIVERABLES
Initiation	Client specific project plan
	Statement of Work
	Signoff on scoping documents

Planning Process

Analysis

Based on the result of the Initiating Process, the analysis process starts with a kick off meeting at the client site to introduce the project to the different stakeholders to ensure that the entire team has the same understating of client requirements and any project constraints. The project teams are introduced to each other and clear roles and responsibilities are reviewed and confirmed.

The project plan needs to be confirmed in which the planning, dependencies, milestones and activities are listed. In order to report on and monitor project progress a project progress template needs to be agreed upon with all project team members.

To ensure proper risk mitigation, a session is held with the client to ensure that all risks are known and this data is merged into the Risk Management log, with defined mitigation actions to be reviewed on a recurring basis.

Technical and functional workshops may be performed:

> Technical workshop to review the proposed technical infrastructure, together with the client's IT department, to ensure timely delivery of required infrastructure.

> Functional workshop to review in detail the client requirements, to specify any gap analysis regarding the standard behavior of the application

An estimate in terms of consultant-days effort or additional requirements will also be reviewed to take into account any change requests raised and agreed via the change management process.

Deliverables

PROCESS	DELIVERABLES
Analysis	Technical Scope
	Functional Scope
	Detailed Planning
	Budget updated
	Sign off on Scope
	Progress any project documentation
	Review change management procedure

Executing process

ACTIVITY	MAJOR STEPS	TIMEFRAME	RESOURCING
Configuration and Integration	Review Hardware and Software Plan installations Agree internal IT support DRP planning Define data conversion strategy Interfaces Agree networking and data transport	Project commencement	Client Representative, FIS Technical Consultant
Hardware Installation	Review existing procedures Gap analysis Document & design modifications Commence authoring of Service Operations Guide	Following systems environment review	FIS Program and Project Managers, Client Representative, Project Team
Design Sessions or Workshops	Document expected configuration and workflow	Following contract execution	FIS Project Managers and Client SME's
Collection of Static Data	Static Data Training Template Population Enquiries and Reports	Post Design Sessions	Project Team, FIS Training Consultant
Training	FIS- Overview System Maintenance Enquiries and Reports	Pre-Design Session or Post-Preseed and Configure	Client Project Team
Preseed and Configure	Initial static data load Instrument Configuration	Following Design	Project Team, FIS Project Manager, Business Users

	Cash Management Configuration Unit test of specific instruments		
System Configuration	Unit tests of settlement or approval workflows Interface Configuration Reporting Structure	Post Pre-seed and Configure	Project Team, FIS Project Manager.
Integration Testing	Test the integration of all connectivity points to external/internal systems.	Upon successful interface and instrument testing	Project Team, FIS Project Manager, FIS Technical Consultant
User Acceptance Testing	Define and conduct acceptance testing	Pre-Cutover and Parallel	Project Team, FIS Project Manager, Business Users
Cutover	Determine Reconciliation approach Gather open positions Enter/Load deals Perform reconciliation	Following UAT	Project Team, FIS Project Manager
Parallel Run	Training of Business Users Maintain live positions in FIS	Follows historical data load and reconciliation	Project Team, Business Users
Go Live	Client support transition	Successful parallel run	FIS Program and Project Managers, Client Service Representatives, Service Delivery Managers,
	Post implementation review	Three months after Live date	Project Team
	Decommission legacy system		

Configuration and Integration

In this stage the implementation of the system is performed. The implementation activities are split up into the following categories.

Hardware Installation

Approach

If the system is hosted by the Client, once the Client has installed the operating system and configured the hardware, FIS will be responsible for the technical installation of the system. If the system is FIS hosted, all of these processes will be managed by FIS.

Backup strategy will be defined and implemented by the Client or FIS. Daily backup procedures and timing are agreed upon.

Installation

The installation of specified FIS products will be completed by experienced technical consultants on environments provisioned in accordance with the hardware and software pre-requisite documentation appropriate for the scope of use of the system. The level of system infrastructure is determined by the scope of systems, modules and interfaces as well as the number of users and volume of expected transactional data whether that be automated or manually input.

In order for a successful installation to be achieved, the client must provide a server environment (either using physical servers or virtual machines), with freshly installed operating systems that have not been cloned from existing images. These servers must meet the minimum required operating system specifications and software levels discussed.

During installation, service accounts will need to be provisioned (a domain user account with a non-expiring password) that will be used to configure the application server services as well as support of automated interfaces. Integration with an active directory group will be used to configure access to the file system of the application server and access to the database. The system will be configured with the least access required.

While the majority of system implementations utilize Citrix connectivity that provides flexibility in accessing various environments (e.g. Test, Configuration, Production or DR) any client server based installations are likely to require additional configuration or installation of client level install shields as they can typically only connect to one application server at a time.

One database schema will be configured for access against the production environment and one more database schema against the test or configuration environments as appropriate to the client specific configuration. Implementation of firewall rules, restrictions or VPN configuration is not expected to be delivered by FIS unless within a FIS hosted environment in which client and FIS technical teams will work jointly to achieve based upon agreed to network and system requirements.

Training

FIS will provide technical training for IT staff in order to understand the basic principles, maintenance and workflow of the system. The attendance of primary IT stakeholders in relation to Server Administration, Workstation Administration and Database Administration is required. Technical Training can take up to two days to complete. For FIS hosted clients, a limited and targeted training session will be conducted.

IT Administration teams will be specifically instructed in the deployment of patches onto the system, copying databases from one schema to another, standard maintenance routines and workstation deployment. After this training, the client will be expected to apply patches when required and ensure systems maintenance is completed.
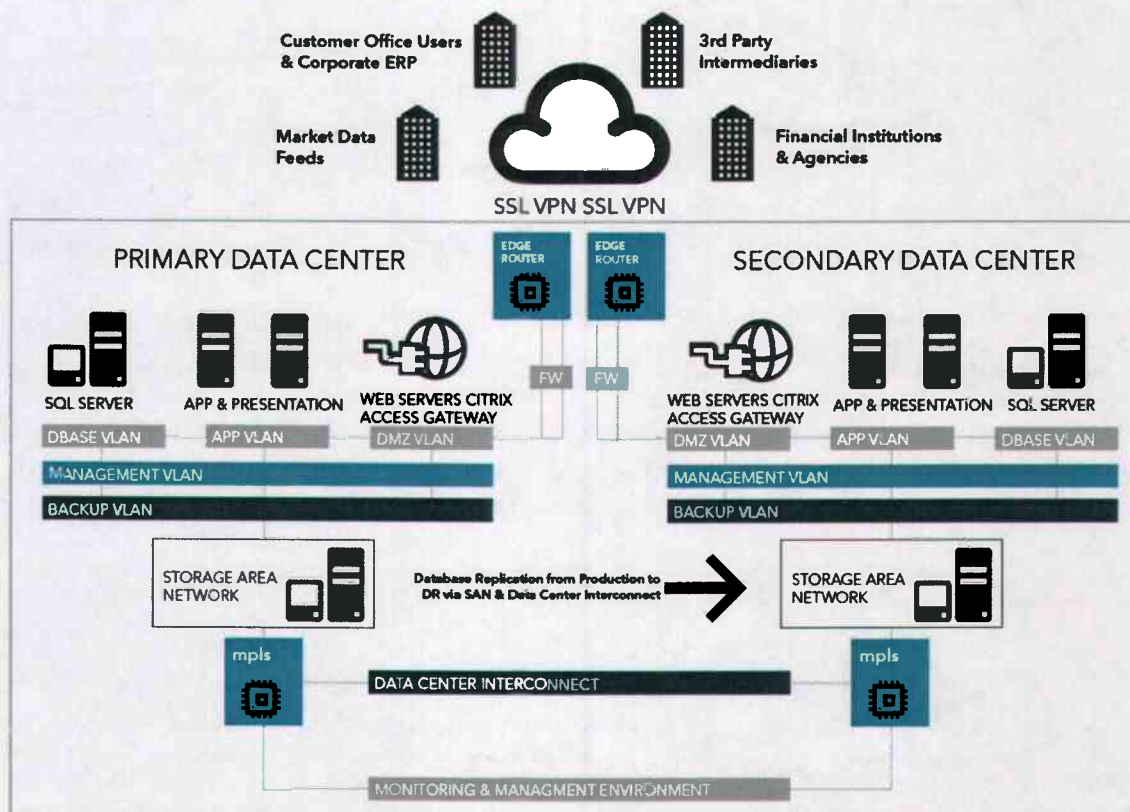

Documentation

In addition to the standard documentation provided by FIS with the products that describes the installation procedures, the FIS technical consultant will also provide specific screen shot documentation of the installation process that has been completed on one environment only. This documentation should be sufficient to repeat the installation on other environments by replacing server names where appropriate for detailed information about each step and its requirement. For FIS hosted systems where different infrastructure has been provisioned for various environments, separate documentation will be provided in the form of an Enterprise Architecture Design or EAD document. This comprehensive document provides specific information around the following topics:

> Architecture Configuration Process
> Network Architecture
> Technical Architecture
  - Server Specifications
  - Server Monitoring
  - Scalability
> Data Architecture
> Secure Database Access
> Backup and Monitoring
> Application Architecture
> End User Access (e.g. Citrix or SFTP clients)
> Application Licensing
> Authentication
> Application Availability and Monitoring
> Third Party Interfaces

System Architecture Diagram

The diagram below shows a standard system configuration:

Remote Support

For FIS hosted clients, a limited and defined number of FIS personnel will have access to provide support to the implementation team as technical modifications are requested. A strict change control process including client approval will be followed through the use of FIS's FIS Service Desk software.

Non-FIS hosted clients typically utilize WebEx or a similar product to provide remote FIS technical resources restricted access to the system. This tool allows remote viewing of another machine over a secure channel on the internet. If there is a technical issue and email exchanges or phone calls have not resulted in a solution, the technical team(s) may want to initiate a remote access session with the user to see the issue directly. If WebEx access is prohibited, another means of remote access is strongly recommended to ensure timely resolution of issues.

Exclusions

It is not planned that FIS will provide technical assistance integrating the products into any monitoring platforms unless specified as part of the FIS hosted services agreement by the technical consultancy team as an additional service should monitoring integration be required.

FIS shall not be responsible for the installation and configuration of the backup strategy to be configured on application or database servers unless the system is FIS hosted. The backup strategy should be in line with the business requirements of the organization in relation to recovery point and recovery time objectives. FIS can make recommendations for a systems backup and database recovery methodology but ultimately, where the system is not hosted by FIS; it is the clients' responsibility to define the backup and retention strategy for the system.

Technical assistance for Disaster Recovery testing will be included or excluded as appropriate to the client environment and as agreed upon per the project plan and budget.

Assumptions

FIS will only be responsible for supporting the FIS applications and customized solutions on the servers during the implementation. The hardware and operating system are the responsibility of client unless the system is FIS hosted. Third party applications are also the responsibility of the client in either infrastructure scenario.

Backup and Control Procedures

It is helpful to use the opportunity of a new system installation to review and confirm the clients' arrangements for the daily back-up of data and restoration, should it be required. Similarly, Disaster Recovery arrangements should remain a part of the project to ensure that senior treasury staff is satisfied with the organization's plans should treasury operations be seriously affected for any reason.

Security and controls for our hosted clients are well documented within FIS's Security Management Policy and covers the following topics:

> Policy Objectives

> Systems Administrators

> Information Owners, Custodians, Users and Security Management Committee

> User Account Management

- Password Security

- Automatic Account Lockout

- FIS User Accounts

- Client User Accounts

> Service Account Management

> Other Security Measures

- System Hardening

- Server Based Standards

- Application Based Standards

- Data Security and Classification

> Security Incident and Escalation Policy

Test plan definition

A test plan is a critical piece of documentation for any project which should outline a systematic and predefined approach to the testing of the system. While end results and expected workflow may be subject to change, the plan should contain a detailed description of the eventual workflow to be tested. Responsibility between FIS and client can vary and will be agreed upon during project scoping. Regardless of the responsibility the following should be well defined:

> Documentation of the strategy employed to verify the system while also identifying risks and contingencies

> Document the test coverage which clearly states what will and will not be tested and should be derived from and design or interface specification documents

> Document testing responsibilities to ensure proper resourcing for any future Unit or User Acceptance Testing

> Document the testing methods which can include timing, system requirements for the testing as well as the establishment of pass or fail criteria.

> Document the tests including schedules, features, deliverables and remediation steps. Where interfaces or processes are utilized, these will usually be tested as part of this process. Similarly, deal tickets, confirmations, and payment advices as appropriate can all be validated as part of the deal testing.

> Collection test data including a selection of deals should be made which constitutes a cross-section of normal treasury operations. The data should include anticipated results and their impact on reports.

Collection of static data

The static data that will be required in FIS, including the structure of actively traded instruments, should be collated in an FIS provided spreadsheet. FIS will provide training and assistance in advising what information will be required and in which order this data will be input or imported to FIS. Workshop training specific to the static data will be provided to ensure a full understanding by the client on the intended use of each static data category as well as individual fields.

It is important to remember that once static data has been input or imported to FIS, this data must then be maintained in parallel with the **organization's** existing system (e.g. additional bank accounts, new counterparties, changes to limits, additional trading currencies etc...) The client is in a better position than FIS to collect data although FIS will assist by providing format documentation. Depending upon the number of legacy systems, excel spread sheets or databases currently in use, this can be a time consuming exercise and should be staffed accordingly.

FIS training

A training program will be devised by FIS and the client to be delivered at mutually convenient times and locations for the project. This training will allow staff to understand the fundamentals of FIS and enable them to complete the first stages in data entry etc. During the scoping process, it will have been determined if the client has chosen a train the trainer approach in which they will take on responsibility for end user training.

Initial overview training may be given as soon as the contract negotiations have been completed. This will allow users to develop necessary structures such as business structure, decide on

instrument structures etc. Additional training will be provided further in the project prior to the commencement of User Acceptance Testing. It is also important to note that much of the knowledge transfer from FIS to the client takes place informally as joint tasks are completed.

Preseed and configuration

Once collated, static data will be input in a methodical fashion, under FIS FIS's guidance or by FIS as per the Project Plan in order to preseed the database with the most common and required data elements. This will then be checked and signed off by the client as each section is completed. If the Client has insufficient time to input data, FIS can advise either in the provision and training of temporary staff or assist with data input as required (subject to change control for the extra days required). Following this, confirmations, deal tickets, etc. will be designed in order that they are ready for deal testing. Similarly, parameters will also be set up for reports.

System configuration

Following the Blueprinting Sessions or Workshops, FIS commences work towards the client's specifically configured system. Utilizing the Blueprinting Session or Workshop documentation FIS will complete a subset of the configuration of core system configuration such as instrument configuration, basic bank reconciliation tools, cash position worksheets and any previously defined workflow or approval processes. Upon completion of the initial configuration, the system is now ready for training and transaction level prototyping or simulation. This exercise will ensure that each transaction produces the correct results including bank account entries, counterparty delivery instructions and accounting entries including accruals, amortizations and mark to market values. A similar exercise is completed for the daily bank reconciliation process in which the auto reconciliation of known transactions (e.g. an fx trade captured two days prior) is properly matched and accounted for as well as the automatic generation of any unknown transactions (e.g. a bank fee). Additional training may be provided for particular users depending on the approach taken within the project plan.

Reporting structure

Reports are validated, modified or created throughout the life of the project, however it is at this point that users may began the validation process through the running of reports while utilizing relevant data sets input in the system configuration phase. Per the project plan, FIS may provide assistance in this area, from helping define required reports through to report writing. The level of this assistance will depend on allocated budget in the report writing process as well as client resources dedicated to the task. FIS anticipates that the client will play an important role in defining reports but may choose to rely primarily on FIS for the configuration of reports.

The list of reports that the project is required to produce must be identified but can sometimes be a challenge unless users have relevant and accurate data available to them. A number of FIS Quantum standard reports are likely to accommodate the majority of these reporting requirements, minimizing the amount of effort required to modify existing reports (e.g. add a column or change groupings). A major distinction is to identify those reports that are critical to the business and are required for going live. Any changes to the standard reports or any report that does not seem to be included in the standard reports should be specified in detail, using existing reports where these are helpful and include field level definitions. Once this stage is complete, the specifications for reports

deemed as critical should be checked thoroughly and finalized. Staff who will be responsible for report writing will receive appropriate report training from FIS.

FIS typically recommends a joint approach to reporting in which once the top reports are prioritized, any reporting budget is used to a) complete the most critical report modifications while b) ensuring the clients resources participate in that process to ensure that appropriate knowledge transfer is taking place. It's this knowledge transfer that is critical to put the client in a position to take ownership of future reporting requirements by the business.

Interface configuration

Interfaces to SWIFT, banking EFT, proprietary banking systems or internal accounting systems as well as any relevant rate feeds will be configured and tested. During the scoping and blueprinting sessions a list of custom interfaces and applications would have been identified as well as the party taking primary responsibility for delivery of the interface. The following section provides a high-level overview of the requirements for any off the shelf or configured interfaces. Detailed specification and requirements documents would have commenced post the design sessions, received sign off and would now be utilized for implementation.

FIS's interface design and build activities are dependent on the Client being able to

> Provide detailed specification documents including both business and technical requirements

> Provide access to 3rd party applications and testing environments to facilitate testing of enhancements which interface with 3rd party vendors

> Provide application engineers (if required) who can work with FIS staff during specification, testing and go-live activities.

Such access requirements will be identified by FIS during interface specification. Roles and responsibilities for site specific configuration by FIS are as follows:

TASK	RESPONSIBILITY	OUTPUT
1. Business/Functional Requirements	Client	Document / Clarifications
2. Software Design and Analysis	FIS and Client	Agreement of specifications
3. Technical specifications	FIS	Documented technical specifications
4. Review and agree specifications	Client	Sign off
5. Configuration as per specifications	FIS	Coding for required functionality
6. Installer builds and Unit Testing	FIS	Configuration ready for install

7. Installation and configuration	FIS	Functionality installed and configured at Client
8. User Documentation	FIS and Client	Document
9. User Acceptance Testing	FIS and Client	Sign off

System Integration testing (SIT)

Within this phase, FIS or client will test individual modules or interfaces which are combined and tested as a group. It occurs after unit testing and before validation testing such as User Acceptance Testing. Integration testing takes as its input, modules that have been unit tested, groups them in larger aggregates, applies tests defined in an integration test plan to those aggregates, and delivers as its output the integrated system ready for system testing. A specific example might include validating that the resulting cash flows from an input security or instrument are properly reflected within other modules of the system such as a cash position worksheet or approval queue.

User Acceptance Testing (UAT)

This is the stage during which the system is tested end to end with all transactions and processes being simulated and being subjected to all workflow stages such as limits checking, approval and settlement as appropriate. As suggested below, this task will involve both the Client and FIS to varying degrees with exact responsibilities having been determined during the course of the project and test planning. Users should be following in precise detail, the steps included within each detailed test plan or scenario to test as thoroughly as possible as identified via the Test Plan Definition deliverables identified previously.

Cutover

The Cutover process should only be undertaken following a highly successful UAT and appropriate signoff on any associated milestones. As users plan for the Cutover phase the following items should be taken into consideration:

> Determine what data will be input to FIS (e.g. from a specific date such as the most recent fiscal year)

> Collect relevant deal tickets and any additional information which may be required (e.g. rate set information facility/loan setup information)

> Devise and implement a procedure so that transactional details are collated to be input to FIS on an ongoing basis until the system goes live.

> Devise and implement a procedure to monitor the deal being input (i.e. ensuring that accuracy is checked, avoiding omissions and duplicates)

Once the acceptance testing has been completed, live transactions will be taken onto the system. A procedure should be put in place which ensures that once the bulk take-on of deals is complete, deals are then input on a continuous basis to keep FIS consistently up to date. Take-on will include the following procedures:

> Technical installation of interfaces and custom reports

> Deal input to FIS

> Implementing Data Input Check

> Reconciling Treasury Information

> Ensuring opening balances are correct

Where required, FIS may take on one or more of the above tasks or recommend temporary resourcing. Running simultaneously with the cutover process is the beginning of the Closing Process in which any and all support documentation is created and or updated (e.g. Client Services handover document, EAD, Service Operations Guide). Internal FIS resources including, but not limited to Service Delivery Managers and Client Service Representatives will be performing thorough reviews of the configured system and all associated documentation as they prepare for steady state support.

Parallel run

The parallel run is the final test for the FIS system. The system will be run as a 'live' system over an agreed period in conjunction with the electronic or manual systems that are already in place. This period is used to ensure that the results that FIS produces are correct and to enable staff to become accustomed to the system in a live environment. This is a critical stage of the project as it is the final opportunity to isolate problems or omissions before the product is officially run live. A parallel run roughly follows the following outline:

> Isolating criteria for parallel run acceptance

> Identifying daily tasks on FIS and allocating responsibility

> Identifying periodic tasks on FIS and allocating responsibility

> Reconciliation between FIS and existing system data

> Formalization of procedures to ensure same data is being input to FIS and existing systems, and how to deal with alteration or deletion of data

> Documentation of the above to avoid omissions and ambiguities

> Any additional staff training which may be required

> Production of all necessary paperwork associated with deals e.g. Deal tickets

> Use of all relevant interfaces

> Use of critical reports

> Logging and solution of any problems

As with the deal testing above, FIS will assist with the above tasks as necessary, subject to planning and change control for any unforeseen effort required. **The Client's** staff needs to run this process, to ensure that users have sufficient familiarity and expertise in the system to ensure that FIS Quantum is maintained smoothly once the Client has gone live.

"Going Live"

The final stage of the implementation project is when existing systems are turned off and FIS is used to run the **Organization's** Treasury business. This should be performed by the client with any assistance required from FIS

Deployment

After all tests and system validation processes have been completed successfully, the system can be deployed into Production. Subject to planning, FIS will offer post go-live assistance via the Professional Services team until a mutually agreed upon and completed transition to the Client Services and Service Delivery Management teams.

Closing process

Support

The FIS organization has multiple teams dedicated to the support of steady state or business as usual operation of the system. These teams include functional product specialists whose specialty lies in the daily usage of the software, technical product specialists who focus on the technical aspects of specific Treasury or Payment applications, hosting engineers who focus on the infrastructure upon which the application resides as well as the service delivery managers who focus is on overseeing the entire support process. FIS realizes that Treasury is a critical service **within a Corporate's business** and therefore clients require prompt follow-up by appropriate resources to enhance client satisfaction and retention.

As soon as the client moves into production mode and are using the system in a live environment, the Client Services Representative(s) and Service Delivery Manager who are responsible for the client will have an internal meeting with the Professional Service team that performed the

implementation. The implementation team present all aspects of the implementation, highlighting any unusual requirements for the specific client implementation including the following:

> Documentation of the business requirements and all associated functional and technical documents should be delivered to the CS team.

> The terms of the Maintenance Agreement should be reviewed.

> Any outstanding implementation issues should be reviewed and ownership within the Professional Services team should be identified.

> Any outstanding support issues should be reviewed via FIS Service Desk application

> Review and confirm Service Operations Guide which the Service Delivery Manager will own going forward

Once the internal review has been completed, a follow up meeting with the client should be arranged, including both the Professional and Client Services team members, the Account Manager and the Service Delivery Manager. During this meeting, the following will be covered:

> Review any relevant client staff changes identifying key stakeholders, subject matter experts or client support representatives

> Re-introduction of Client Services team member(s), including all contact information for support issues as well as escalation contacts.

> Review of Implementation status, focusing on implementation tasks deemed completed by Professional Services, implementation tasks considered outstanding that will be passed to support for resolution. All outstanding issues should have assigned ownership within FIS, so that client and Service Delivery Manager are clear on whom to follow up with on any issue. For issues owned by Client Services, the case numbers should be provided to all relevant parties.

> Review of support terms in Maintenance Agreement.

FIS service desk

The FIS Service Desk exists in order to provide an easy, streamlined interface for the client to engage with FIS to obtain support or information about FIS product or service. Specifically the following features are available:

> Submit, track and manage service requests

> Generate Service request reports and dashboards

> Required root cause analysis and definition as part of each service request

> Knowledge Base, product documentation, release announcements and notes

> Client surveys providing immediate feedback on performance

> Review product tips and tricks
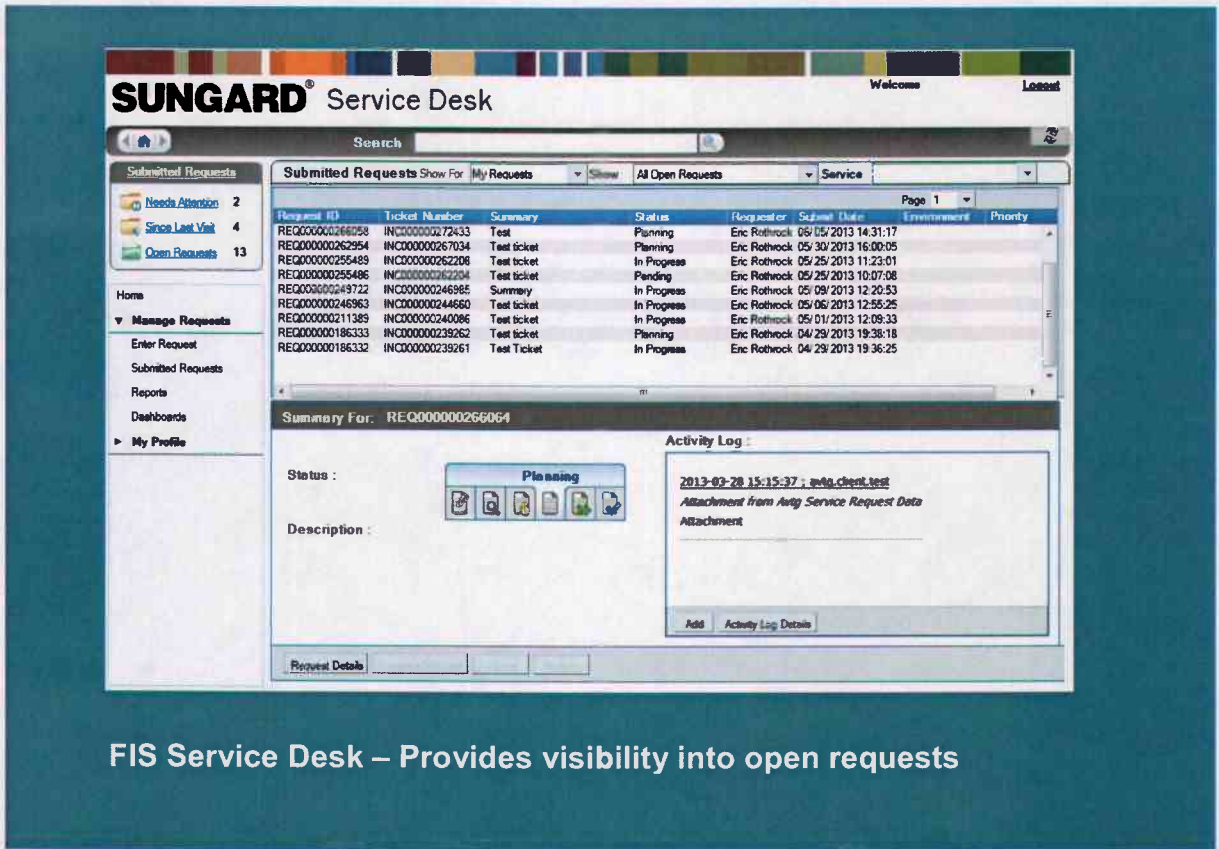
FIS Service Desk – Provides visibility into open requests

Deliverables

PROCESS	DELIVERABLES
Closing	CSR handover document completed Service Operations Guide updated FIS Service Desk Training Handover meeting with CSR and SDM's

PROJECT ORGANIZATION AND RESPONSIBILITIES

Project teams

The table below provides an indication of the project teams that are involved for Client and FIS.

ROLE	RESPONSIBILITY
Client Project Sponsor(s)	Budget holder and ultimate owner of the business case and responsible for realization of the benefits through delivery of the Project. • Ensure buy-in from front line managers and employees • Prioritize activities to demonstrate the importance of the project • Advocate or help sell ideas, solutions and the big picture, shielding against scope creep and maintaining perspective • Minimize detractors, objectors or non-performers to whatever extent possible • Maintain an open, positive, problem solving environment by positively reinforcing participation in constructive issue resolution
Client Project Manager(s)	The Client Project Manager will own the Project Plan for the Implementation and be responsible for the day to day tactical management of the Client resources. • Initiate & Prepare Project Meetings • Translating business requirements to implementation plan • Work to prepare agreed upon project plans and schedules (with assistance from the FIS Implementation Manager) • Commit Client resources as needed for the project • Provide senior management reporting on the Cost & Schedule • Monitor the issues log with the assistance of the FIS Implementation manager • Ensure that milestones are signed off as per Project Plan • Manage the Change Control process with the Client Business Users • Responsible for clearly defining the project scope, objectives, deliverables and critical success factors of the project and accepting the system on behalf of Client on completion of the project. • Coordinate IT side from Client for the integration of TMS and other system activities Coordinate with Client IT and other service providers • Sign off of FIS Work Reports
FIS Executive Sponsor	FIS senior management representative(s). Responsible to ensure all contractual obligations are met and serve as an additional escalation point as required
FIS VP or Director - Professional Services	FIS senior Services management representative. Responsible to ensure all contractual obligations are met. Escalation point above Project Manager and / or Program Manager. Steering Committee attendee

ROLE	RESPONSIBILITY
Program Manager(s)	Manager across all project disciplines: • Drives cross product and regional communication • Ensures agreed upon project management principles are adhered to • Serves as primary escalation point for all project teams • Drives preparation of key submittals to Governance groups • Drives for resolution to critical project risks via executive sponsors • Ensures a long term perspective is kept with frequent briefings to Service Delivery Management and Client Service resources
Project Manager(s)	Manager in charge of FIS tasks in the project: • Attend relevant Steering Committee Meetings • Report the global budget and schedule on an agreed upon basis • Day to Day direction to FIS implementation team • Prepare FIS project progress reports and relevant presentations • Review joined project management related documentation drafted by the other project managers • Work with the Client project manager to prepare agreed upon project plans and schedules • Change Management process
Service Delivery Manager	Upon go live or steady state: • Single point of contact for communication • Collaborate with PS, CS and hosting teams as needed • Manage stakeholder expectations • Prepare FIS SLA reports • Ensure any other contractual obligation or service agreement deliverables are met (e.g. optimization reviews where included) • Proactive engagement with other FIS departments (e.g. configuration or Swift service bureau)
Client Services Representative	• Log and update all issues in FIS Service Desk • Work closely with cross functional team such as technical support, configuration, hosting, managed services and product management • Maintain active communication on the status of open issues with clients • Conduct scheduled or as needed status calls • Prioritize the resolution of issues on the clients behalf • Perform detailed troubleshooting and analysis on reported client issues • Provide, explain and implement resolutions to reported client issues

For a project to be successful, it is our experience that **the client's** project team and involvement should adhere to the suggestions below:

> The project sponsors remain available for the project for the entire duration. They should be called upon for decisions on project critical issues (possibly within the context of a CLIENT project steering committee).

> The project manager should remain assigned to the project for the duration of it and should actively manage the project from the Client side.

> In preparation for the project initiation phase a number of documents should be gathered to ensure a smooth start of this phase; these activities are not listed in the table above.

> Users are involved in the end-user testing of the applications in the test-phases.

In parallel, FIS will adhere to the following:

> The project manager remains assigned to the project for the duration of it and should actively manage the project from FIS side. The project manager will participate in the project steering committees.

> Additional functionality, more detailed or new requirements detected during the scope which are outside of the global scope defined in this proposal, will be managed by the Change Control Procedure.

Responsibility matrix (RACI)

The purpose of this section is to clearly indicate the roles performed by all parties in the realization of the project tasks. The information provided in those columns is based on our experience in similar projects but can be adjusted during the analysis phase as well as complimented with the addition of a third party.

RACI MATRIX - EXPLANATION OF ROLES			
-	R: Responsible party and owner of the deliverable		
-	A: Accountable party assisting with responsible party with specific deliverable dependencies		
-	C: Contributing party with a lesser degree of involvement than the Accountable party		
-	I: Informed part, but not typically involved in the task		
** Assumes FIS hosted system and represents common role assignments			

STEP/CATEGORY	PROJECT TASK	CLIENT	FIS
Project	Steering Group	R	A
Governance	Project Planning	A	R
	Project Plan Maintenance	R	A
	Weekly Project Meetings	R	A
	FIS Team Management	I	R
	Client Team Management	R	I
	3rd Party/Integrator Team Management	I	I
Initiation	Treasury Process Re-engineering	R	I
	Process Documentation (As is -> To be)	A	I
	Business Requirement Design Document	A	R
	Scope Document	A	R
	Scope Sign-off	R	I
	Project Kick Off Meeting	R	A
	Project Team Assignments	R	R
Environment	Hardware setup	I	R
Setup	Software Environment configuration	I	R
	FIS Product Installation	I	R
	Environment Testing	C	R
	Environment Signoff	R	A
System Build	Static Data Collection	R	C
	Static Data Setup & Test	A	I
	Static Data Signoff	R	C
	Interface Definition	A	R

	Interface Configuration	C	R
	Interface Test	A	A
	Interface Signoff	R	I
	Accounting Design/Definition	R	A
	Accounting Setup & Test	A	A
	Accounting Signoff	R	I
	Security & User Rights Definition	R	A
	Security & User Rights Setup & Test	R	A
	Security & User Rights Signoff	R	I
	Confirmations Definition	R	A
	Confirmations Setup & Test	C	R
	Confirmation Signoff	R	C
	Reporting Definition	R	A
	Reporting Setup & Test	R	A
	Reporting Signoff	R	I
	Risk Reporting Definition	R	A
	Risk Setup & Test	C	R
	Risk Signoff	R	C
	Cash Management Definition	R	A
	Cash Management Setup & Test	A	R
	Cash Management Signoff	R	I
	System Training	C	R
	Deal Simulation/Transaction Testing		
	Investments	A	R
	Debt	A	R
	FX	A	R
	Interest Rate Derivatives	A	R
	Multi-Lateral Netting	A	R
	In-House Banking/Interco/Pooling	A	R
System	User Acceptance Test Planning	R	C
	User Acceptance Test Scenario/Case Definition	R	C
Implementation	User Acceptance Test Execution	R	C
	User Acceptance Test Signoff	R	I
	Audit Documentation	A	I
	Procedural Manuals	A	I
	Internal Application Support	R	C

Historical Data	Data Migration Planning/Strategy	R	C
	Data Migration	R	C
	Data Migration Signoff	R	I
Parallel Run	Parallel	R	C
	Parallel Signoff	R	C
Support	Handover Documentation	C	R
Handover	Support Handover Meeting	A	R

Monitoring and controlling process

Strategic governance

A clear governance model allows project contributors to understand how they engage with the project and what is expected of them. It also describes the quality control processes that helps assure potential users of the continuing viability of the project. The governance model describes the different roles project participants can take, and the process for decision making. In addition it describes processes for communicating and sharing within the project team and wider stakeholders. It is the governance model that prevents the project from descending into chaos, and it is the governance model that describes the typical ground rules for participation in the project.

Governance models range from the centralized control of a single individual or organization (benevolent dictatorship) to distributed control awarded in recognition of contributions (meritocracy). It is possible to create a governance model at any point along this spectrum.

The principles that the governance model for the Client project should support are the following:

> **Transparency**: open and honest communication at all points in the project; and a clear definition of tasks, responsibilities and status at all times.

> **Partnership**: on the operational level all parties participating in the project are recognized as partners focused on the common goal of making the project a success.

> **Accountability**: a clear definition of tasks, responsibilities and ownership.

The governance structure provides the management framework for the project. The structure ensures that decisions made during the project and issues found and mitigated are visible to all key stakeholders.

FIS recommend a 3-tiered organization structure to manage the relationship at the strategic, tactical and operational levels. That structure is illustrated below:

Strategic - Executive steering commiteee

Discuss and review strategic business directions and priorities

Financial oversight

Attended by excecutive sponsors

Held quarterly or on demand

Tactical - Project steering commiteee

Review overall programme plans

Review programme financial and scope

Review critical risks and issues

Attended by the exceucutive steering committee

Held monthly

Operational - Operational review

Review project plans

Manage change control

Project actions, risks and issues

Attended by operational committee

Held weekly

At the Strategic Governance level, the focus would be on providing the means by which the Executive Steering Committee can come together to not only discuss the ongoing Program or Project activities but also to cover topics outside the immediate scope of the Program, such as the strategic direction of the Quantum business and Product. Executive Steering Committees can be especially useful at the project start, as the Program approaches key milestones or even adhoc depending on the situation at that point in time in the project lifecycle.

This Governance structure relies on the appointment of certain roles on both sides. The tables below gives a high level overview of the different roles mentioned within this section. Of course, when it comes to the real project organization, the detail of these roles may be different and both parties can agree to add different roles to meet the Governance structure of Client.

Tactical governance

At the Tactical level, Project Governance is focused around the Project Steering Committee. The make-up of that Committee and the typical roles and responsibilities and agenda at this level would be as follows:

OBJECTIVE	To ensure delivery of project on-time and within budget Escalation point for project issues
ATTENDEES	Client Project Sponsor Client Project Manager(s) FIS Project/Executive Sponsor (optional) FIS Project VP or Director FIS Program Manager (contingent on Project size) FIS Project Manager Others as required
TYPICAL AGENDA	Approval of the previous minutes Review progress to date including budget and high level milestones Discuss critical issues Review project scope changes Review detailed project plan for the next month Risk review which scores all the project risks and ensures appropriate mitigation plans are in place for high impact / high probability risks
FREQUENCY	Monthly
LOCATION	On Site or Conference call
MINUTES	FIS

Operational governance

At the Operational Level, Project Governance would be focused on the close management, communication and collaboration of the project team (Across FIS and Client) in ensuring the project is controlled carefully and that progress against scope, cost and time remains transparent. The make-up of that Committee and the typical roles and responsibilities and agenda at this level would be as follows:

OBJECTIVES	Closely monitor project progress Record Achievements / Milestones Address Issues and Risks
ATTENDEES	Client Project Manager(s) FIS Project Manager FIS Program Manager (contingent on Project size) Others, as needed
TYPICAL AGENDA	Review project plan status Review of resource plan Discuss open items on the action log Review the Risk and Issues registers
FREQUENCY	Weekly
LOCATION	On site or Conference call
MINUTES	FIS

In addition, at the Project Level, FIS encourages the flexibility of holding Operational Meetings on an as required basis, where Weekly meetings are not sufficient or there are specific topics that need to be actioned immediately. Effective Change control is critical to ensure project success by defining and controlling change and therefore containing project risk. It is critical to control changes to the project plan and scope so that the Go-Live schedule is not negatively impacted.

> Enables effective Change Request monitoring and control

> Establishes a standard mechanism for assessing change

> Ensures a full assessment on scope, duration and budget are performed by the project manager

> Controls the quality of products in the project

> Manages change and risk to the project

> Addresses and tracks issues that arise during the course of the project.

> The project is delivered to the satisfaction of the client

> Changes are managed and controlled throughout the project

> Budget and time impacts are identified before changes are implemented

> Clients can make business decisions on cost and benefit of each additional change.

To ensure changes and their impacts are properly considered, the following change management process will be followed.

> Identify and document change including justification, cost/schedule impact, etc.
> Obtain appropriate management and budget approval (see table below).
> If approved, update the project plan to accommodate the change.
> Record change and monitor status in a change log
> Report change to monthly steering committee.

Four types of changes are anticipated. Following are the approvals required for the different types of changes.

NATURE OF CHANGE	APPROVAL PROCESS
A. Scope change based on clearer requirements, modified approach, etc. which can be accommodated within the current configuration with no impact on cost & schedule.	• Endorsement by client Project Manager • Inform Project Sponsors
B. Scope change which impacts either or both project cost and schedule	• Agreement from client Project Manager • Inform Steering Committee of the proposed change
C. Scope change which requires modification to an existing module	• Agreement from client and FIS Project Managers • Agreement from FIS configuration teams as required • Inform Steering Committee of the proposed change
D. Scope change which requires the purchase of an additional module from FIS	• Agreement from Client Project Manager • Approval of the proposed change by Steering Committee

Notwithstanding the following Change Control procedure all work conducted as a result of any Change Control request of type B, C or D as described above, will be carried out by FIS either on a time and materials basis at the agreed Professional Service Fee or at a fixed cost quotation and supply of a Change Control task. This cost will be in addition to the quoted number of consulting days. A change request document must specify in detail:

> A description of any proposed change to any services
> Any proposed variations or amendments to the Agreement, the Scoping Document or functional specification
> Any other details, which the other party might reasonably want to know and which relate to the change, proposed.
> If either party submits the change request, it must also set out in detail, if known:
> An estimate of any cost impact detailing number of days and price
> Any consequential changes, which will be required to any Project Plan or any other agreed time limit. If the client submits a change request, FIS must evaluate it and, within 5 working days submit a response setting out in detail:

1. All of the details listed above
2. If relevant, FIS's opinion of the technical feasibility of the proposed change
3. If any additional changes or terms which it would propose including cost and the effect upon delivery dates that can be identified and if not when such a cost and delivery impact would be known.

4. If there will be any charges for FIS services for the time undertaken by FIS in determining the impact of the Change Request on the Services, FIS will notify the client. FIS will not be obliged to submit the response unless the client notifies FIS in writing to proceed in processing the Change Request. For changes of category B, C and D the client agrees to pay FIS's charges for such time at the Professional Service Fee rates set out in Schedule A or at a fixed cost quotation as may be agreed between the parties.

All change requests from the client will be submitted to FIS's program or project manager and all change requests from FIS shall be submitted to the client's project manager. Once a response has been submitted, the parties will then discuss the proposed changes and any related matters. If agreement is reached on any changes, a document will be prepared which specifies all relevant changes to this Agreement. The document mentioned will be subject to final approval and signature on behalf of both FIS and the client. As part of the implementation the PDS or Design Document will be updated to reflect any additional approved change requests.

ESCALATION PROCESS

One objective of having an integrated work team is to facilitate timely resolution of issues. Team members should feel free to raise any concerns about the project. If anything arises which may potentially impact the success of the project, the following escalation process should be followed. Note that no changes should be made to the work plan or system requirements without agreement from Client Project Manager.

ISSUE	FIRST LEVEL OF ESCALATION	SECOND LEVEL OF ESCALATION
Clarification or question on functional specifications	Client Project Manager	Client Project Sponsors or Steering Committee
Systems / technology problems	Client Project Manager	Steering Committee
FIS Resource issues	FIS Project /Program Manager	FIS Management
Resource issues	Client Project Manager	Steering Committee
Scheduling / deliverables	Respective Managers (FIS or Client)	Steering Committee

Risk Management Strategy

1. Introduction to Risk & Issue Management
2. Overview
3. Identify
4. Analyse
5. Plan the Actions
6. Monitor

# INTRODUCTION TO RISK & ISSUE MANAGEMENT

Risks

- A risk is an **event that is not certain** but that if it were to occur would have a negative impact on the project objectives or intended benefits.

- Risks are managed in order to minimise the likelihood of a detrimental event occurring or to reduce the impact the event would have in the event that it occurs. **A Risk if not mitigated could evolve into an issue.** Where a Risk materialises it will be promoted to an Issue and managed through the Issue process.

- Risk management is the process of identifying risks, evaluating them and developing mitigating actions to counteract them.

- Where the mitigating action results in a change to the project schedule, scope, and budget a Change Request is raised so the revision can be effectively planned, managed and implemented.

Issues

- An Issue is an **event that has already happened**, is currently happening, or is certain to happen at some point in the future.

- An Issue is defined as any functional, technical or business-related event that arises during the course of the project that requires a satisfactory resolution for the project to proceed as planned. Generally Issues require decisions to be made that are outside of the scope of day-to-day programme/project tasks and their management.

- Issue Management is the process used to document and resolve Issues and/or problems that occur during a project.

- Where the resolution of an Issue results in a change to the project schedule, scope, resource, budget or benefits, a Change Request is raised so the revision can be effectively planned, managed and implemented.

Overview
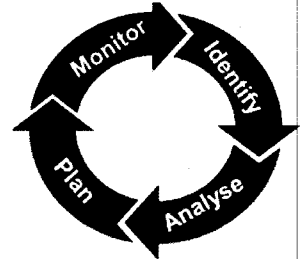
Process

- The Risk and Issue management process is a systematic approach designed to ensure adequate assessment and planning to manage Risks and Issues on the CustomerXYZ project

- The process can be divided into the following activities:

  - Identification;

  - Analysis of the probability and impact;

  - Plan actions to mitigate the Risk or address the Issue;

  - Monitor the Risk or Issue and the mitigation actions.

Risk and Issue Logs

- There will be **project Risk and Issue logs** on the designated project site raised by all team members on the project. These logs will be used during weekly status meetings and Steering Committee meetings at a minimum.

- FIS recommends a separate **CustomerXYZ Internal Risk and Issue Log** to capture project level risks and issues they may wish to track internally. These risks and issues can be used for escalation at steering committee meetings or directly to the projects sponsors depending upon the criticality.

Risk Responsibilities

- Project Managers are responsible for the Risk and Issue management process on the project. However, all team members assigned as Risk Owners will be responsible for managing issues they are assigned.

- The **CustomerXYZ PMO** will be responsible for reviewing Risk and Issue logs and monitoring response actions to ensure logs are kept up to date and are following the standards agreed. The **FIS PMO** will be responsible for monitoring the response actions assigned to FIS team members to ensure accuracy and timeliness.

Identify

Risk Identification – Project Phases

- A joint risk identification session will take place with all project stakeholder following the project kick-off to produce a comprehensive list of risks in the Risk log.

- FIS does recommend a separate **CustomerXYZ** specific session for overall project risks to be captured in their internal Risk Log.

- Risk identification meetings will take place prior to the start of each milestone at a minimum.

Risk Identification – During Project

- Any new risks identified by project team members during the project should be passed to their respective Project Managers (**CustomerXYZ** IT & Business, any 3rd party consultants, FIS etc....).

- Project Managers are then responsible for adding these risks to the project risk log on the shared project site.

- The Risk Owner is the person accountable for the risk and needs to regularly monitor any risks assigned to them. The Risk Response Owner is the person who will action the response and update the log. If the Risk Response owner is not a Project Manager, updates should be sent to their respective PMO.

- When adding or amending risks in the log, any change in Risk Ownership should produce immediate notification to the new Owner.

- Customer XYZ is responsible for adding any new risks identified during any scheduled or adhoc meetings (do not discount the risk raised on an adhoc basis)

Identify

Issue Identification

- When there is a problem that cannot be resolved through day to day management, an Issue should be raised. Issues identified by project team members, should be passed onto their respective Project Manager.

- Project Managers are then responsible for adding these issues to the project Issue Log.

- The Issue Owner is the person accountable for the issue and needs to regularly monitor any issues assigned to them. The Issue Response Owner is the person who will action the response and update the log. If the Issue Response Owner is not a Project Manager, they should send updates to their respective PMO.

- When adding or amending issues in the log, any changes to Issue Ownership should produce immediate notification to the new Owner.

- The **CustomerXYZ PMO** is responsible for adding any new issues identified ng any scheduled or adhoc meetings

Identify

- Once identified, risks and issues are to be categorised under one of seven categories.

- The categorization should be based on the area the risk or issue is arising from, which may be different to the area impacted by the risk or issue. For example, a risk relating to a system architecture change which may cause an increase in costs, should be categorised under Technical not Budget.

- The categories are displayed below including some of the areas covered under each category:

Analyse

Risks

- After identification, risks should be **analysed and classified in terms of likelihood and impact** by the Risk Owner. The relevant Project Manager should co-ordinate with the Risk Owner to log the risk appropriately.

- The criteria set out below should be used in the assessment of the likelihood of a risk event occurring.

- The risk should be also be analysed to define the primary area of impact. This should be based on the area where the risk will have the highest impact. The criteria on the next slide is to be used to categorise the level of impact.

- The Risk Proximity Date and Impacted Milestone should be captured as this will determine when the response is required.

Risk Event Likelihood Analysis	
Very High	The risk is almost certain to occur.
High	There is a high probability of the risk occurring.
Medium	There is some probability of the risk occurring.
Low	There is a low probability of the risk occurring.

Issues

- After identification issues should be **analysed and classified to define the impact** by the Issue Owner. The relevant Project Manager should co-ordinate with the Issue Owner to log the issue appropriately.

- The primary area of impact should be based on the area where the issue will have the highest impact and the criteria on the next slide should be used to categorise the impact.

- The Issue Impact Date and Impacted Milestone should be captured as this will determine when the response is required.

Analyse

Risk and Issue Impact Analysis

Area	Very High	High	Medium	Low
Functional	Severe impact on functional requirements such that the project no longer meets the project objectives.	Significant impact on key and necessary functional requirements.	Moderate impact on necessary or desired functional requirements.	Minor impact on necessary or desired functionality.
Technical	Severe impact on technical requirements.	Significant impact on technical requirements.	Moderate impact on technical requirements.	Minor impact on technical requirements.
Budget (cost of risk or mitigation, including resourcing)	>30,000€ cost impact on project budget	10,000-30,000€ cost impact on project budget	3,000-10,000€ cost impact on project budget	<3,000€ cost impact on project budget
Schedule	>5 days impact to Level 1 milestones	<5 days impact to Level 1 milestones	No impact to Level 1 milestone. Moderate impact on Level 2 milestones	No impact to Level 1 milestone. Minor impact on Level 2 milestones
Stakeholders	Impact on relationship with Board. Significant impact on relationships with all key users.	Significant impact on relationship with SteerCo. Impact on relationships with large number of key users.	Moderate impact on relationship with SteerCo or small number of key users	Minor impact on relationship with SteerCo or key users
Regulatory	Serious breach leading to sanctions or legal action.	Significant breach leading to reprimand.	Moderate impact leading to warning, threat of sanctions.	Minor impact, no reprimand, sanction or legal action.
Governance	Severe breach of project controls or governance resulting in unauthorised decision making.	Significant breach of project controls or governance requiring management intervention to rectify.	Moderate breach of project controls or governance requiring actions involving multiple parties to rectify.	Minor breach of project controls which can be easily rectified.
Quality	Severe impact on quality of deliverables resulting in unacceptable quality of overall project .	Significant impact on quality of deliverables, which impacts quality of overall project.	Moderate impact on quality of project deliverables, not affecting quality of overall project.	Minor impact on quality of project deliverables, not affecting quality of overall project.

Analyse

Risk Rating Assessment

Impact		Likelihood			
Very High	Medium	High	Very High	Very High	
High	Medium	High	High	Very High	
Medium	Low	Medium	High	High	
Low	Low	Low	Medium	Medium	
	Low	Medium	High	Very High	

Plan the Actions

Risk Response Planning

- After analysis of the risk, the appropriate actions to manage the risk should be planned by the Risk Owner and added to the log. There are four possible responses to a Risk:

  - Terminate the risk so it no longer applies – this would be by removing activities that would lead to the risk;

  - Treat the risk by identifying and implementing mitigating actions - these actions should look to reduce the probability of occurrence or the severity of impact should the risk occur;

  - Transfer the risk to a third party (for example insurance); or

  - Tolerate the risk (do nothing) - this may be the response for risks with a low score or which cannot be mitigated.

- A Risk Owner and an Response Owner should be assigned by the Project Manager for each risk. The Risk Owner is the most appropriate person to be responsible for managing and monitoring the risk. The Response Owner is the person responsible for implementing the planned actions. Risk Owner and Response Owner may be the same person.

- If the mitigating action has an impact on scope, budget, schedule, or benefits, a Change Request must be raised in line with the Change Control Process.

Issue Response Planning

- After analysis of the issue, the appropriate actions to address the issue should be planned by the Issue Owner and added to the log.

- An Issue Owner and an Response Owner should be assigned by the Project Manager for each issue. The Issue Owner is the person responsible for managing and monitoring the issue to completion. The Response Owner is the person responsible for taking the actions to resolve the issue. Issue Owner and Response Owner may be the same person.

- If the recommended action has an impact on scope, budget, schedule, or benefits, a Change Request must be raised in line with the Change Control Process.

Monitor

Renewing Risk and Issue Actions

- On a weekly basis, before end of day Friday, Project Managers are responsible for reviewing and updating risks and issues they are assigned to as the Risk/Issue Owner or the Risk/Issue Response Owner prior to any relevant meetings. The CustomerXYZ Risk and Issue Log will be reviewed by the CustomerXYZ Project Manager(s) prior to any steering committee meetings at a minimum.

- **Very High, High and Medium rated risks** and issues which are new or relate to Milestones due in the net month, or with Response Complete by Dates within the next month as well as any escalations by the Project Manager(s) will be reviewed during weekly status meetings.

- **Very High and High rated risks** and issues from the Project and CustomerXYZ Internal Risk and Issue logs will be escalated during steering committee meetings. The actions plans for these risks and issues will be reviewed and approved at his committee.

- The CustomerXYZ PMO will review the Risk and Issue logs on a weekly basis. This review will include checking if risks and issues (and response actions) are being regularly updated; if an appropriate response to risks has been planned; and if mitigating actions documented are appropriate for the risk or issue. Any updates required prior to Project or Steering Committees will be escalated to the relevant Project Managers.

Closing Risks and Issues

- If a risk materialises, it will be closed on the Risk log and added to the Issue log with a cross reference to the original risk.

- Risks and Issues should only be closed on confirmation from the Risk/Issue Owner and relevant Project Managers. Project Managers may decided additional validation is required for closure. In this case the Proposed Close status should be used.

- Closed Risks and Issues will remain on the log and should not be deleted in any circumstance

Risk Management Metric Tracking

Process	Metric	Measurement
Change Management	Changes are being identified	Number of Changes per month
	Changes are being acknowledged	Time between submission and acknowledgement
	Estimates are being provided	Time between committed estimate delivery and actual estimate delivery
	Changes are being delivered	Time between committed delivery and actual delivery
Risk Management	Risks are being identified	Number of Risks identified per month
		Number of Risk identification workshops in phase
	Risk responses are being Actioned	Time between response required date and actual response date
		Number of Risk review sessions per month
	Risk management effectiveness	Number of Risks that become Issues
		Ratio of Risks to Issues
		Number of Risk escalations per month
Issue Management	Issues are being identified	Number of Issues identified per month
	Issue responses are being Actioned	Time between response required date and actual response date
		Number of Issue review sessions per month
	Issue management effectiveness	Number of Issues
		Ratio of Risks to Issues
		Number of Issue escalations per month

Risk Management Metric Tracking

Document Management	Document naming conventions adhered to	Number of incorrect naming per ad-hoc check
	Documents stored in the correct area of Repository	Number of incorrect storage per ad-hoc check
	Deliverables Register updates	Number of Deliverables register reviews per month
	Document delivery	Time between document required submission and actual submission
Action Management	Actions are being addressed	Time between Action due date and actual date
		Number of Action review sessions per month
Meeting Management	Meeting Minutes circulated	Time between required delivery and actual delivery
Reporting Management	Weekly Report provision	Number of late report submissions per month
	KPI Report provision	Number of late report submissions
	Accuracy of report	Number of inaccurate reports per ad-hoc check
Schedule Management	Schedule accuracy	Number of formal planning sessions in the phase
		Number of schedule issues per ad-hoc check
	Schedule maintenance	Number of Schedule review sessions per month

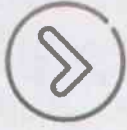# Quantum Implementation

Steering Committee Meeting 9-20-2017

Agenda

- Completed, In Progress and Upcoming Tasks

- High Level Project Timeline

- RAG Status

- Status Report – Milestones in Progress

- Budget

- Risks & Issues

- Resource Scheduling

Completed, In Progress and Upcoming Tasks

Completed

- Onsite prototype sessions held (8/15)
- Static data templates completed (8/24)
- Training schedule aligned and published (8/25)
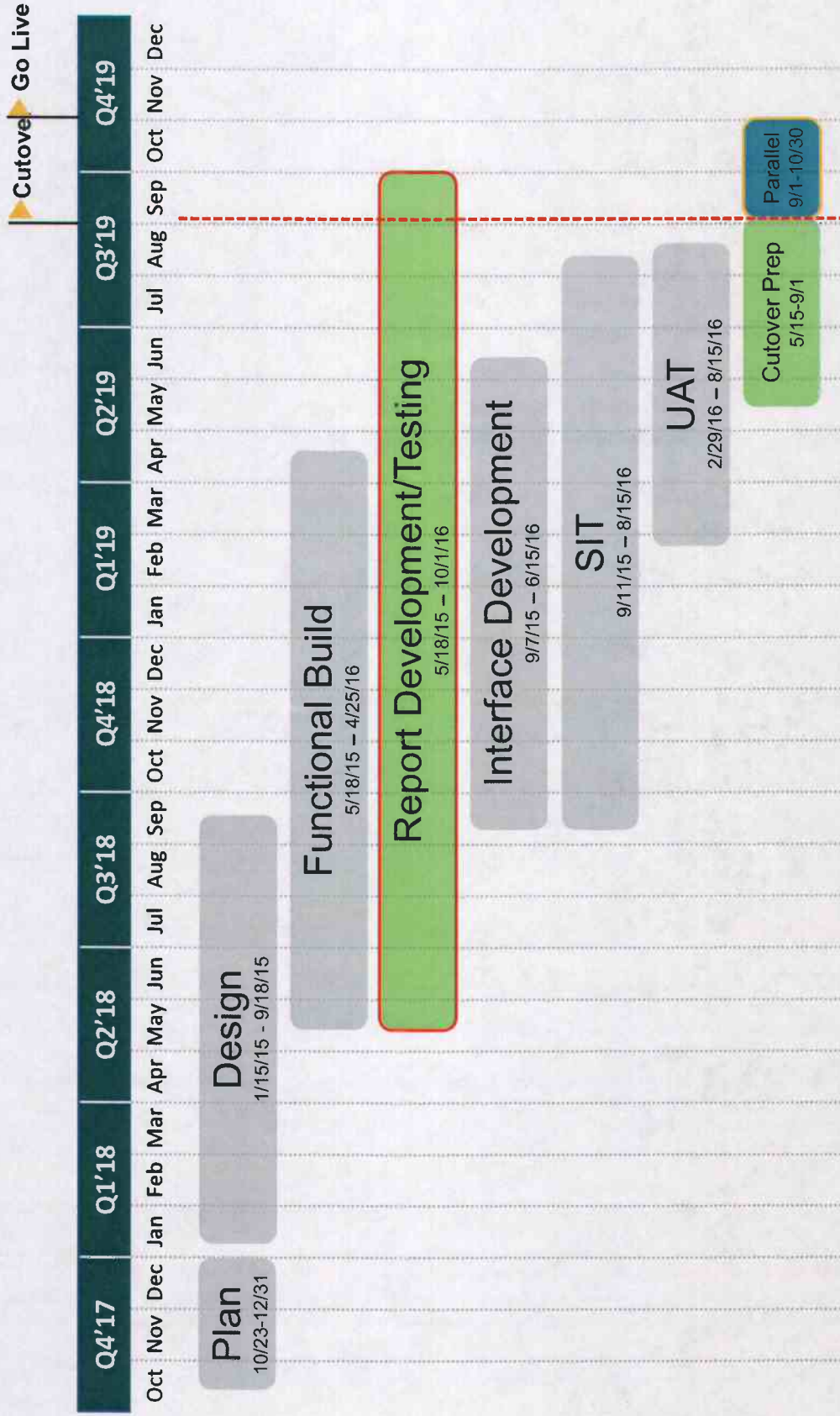- Project plan baselined (9/1)

In Progress

- Functional design documentation in progress; on track for 10/1 completion
- Report design in progress; targeting completion on 10/15
- Interface requirements being gathered; target completion date of 10/30
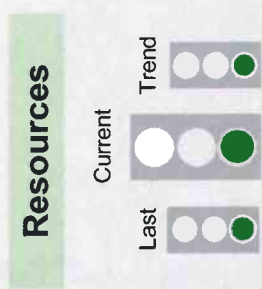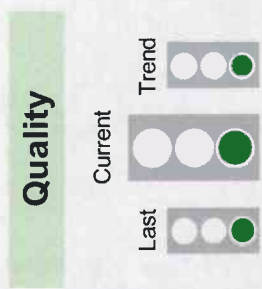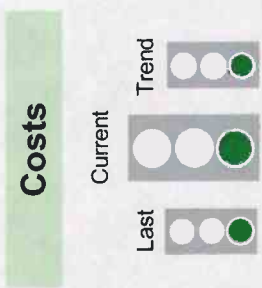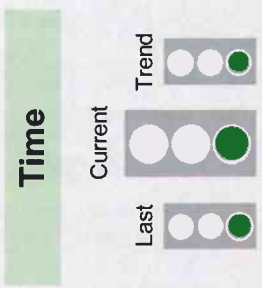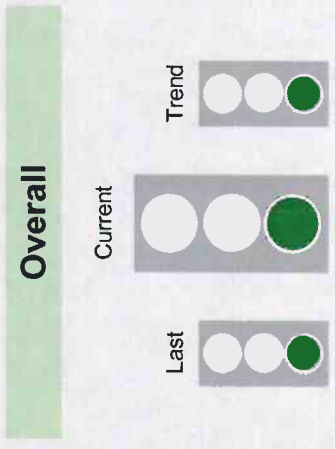
Upcoming

- Report development
- Interface development
- On-site training session planned for week of 10/15
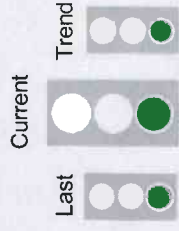- Menu/resource security working session to be held on 10/15

FIS

Timeline

Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	Q3'19	Q4'19
Oct Nov Dec	Jan Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec

Cutover ▲ Go Live ▲

Plan
10/23-12/31

Design
1/15/15 - 9/18/15

Functional Build
5/18/15 – 4/25/16

Report Development/Testing
5/18/15 – 10/1/16

Interface Development
9/7/15 – 6/15/16

SIT
9/11/15 – 8/15/16

UAT
2/29/16 – 8/15/16

Cutover Prep
5/15-9/1

Parallel
9/1-10/30

■ Completed   ■ In progress   ■ Not started

FIS

4

Project RAG Status

Overall

Current

Last

Trend

Time

Current

Last

Trend

Costs

Current

Last

Trend

Quality

Current

Last

Trend

Resources

Current

Last

Trend

FIS

Status Report – Milestones in Progress

Milestones	End Date	Progress	RAG
Application Install and Setup			
1.1 Task 1	31.05.16		●
1.2 Task 2	14.06.16		●
Functional Design			
2.1 Task 1	07.07.16		●
2.2 Task 2	07.07.16		●
Functional Build			
3.1 Task 1	07.07.16		●
3.2 Task 2	07.07.16		●
Report and Interface Design & Development			
4.1 Task 1	19.08.16		●
4.2 Task 2	30.09.16		●
4.3 Task 3	30.11.16		●
Test			
6.1 SIT	30.12.16		●
6.2 UAT	30.12.16		●
Cutover and go live			
7.1 Task 1	10.02.17		●
7.2 Task 2	13.03.17		●
7.3 Task 3	13.03.17		●

Budget

Current
Last
Trend
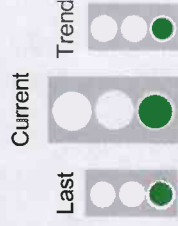
Milestones	Budget	Used	Remaining	RAG
Application Install and Setup				
1.1 Task 1	$5,000	$2,500	$2,500	●
1.2 Task 2	$7,000	$3,000	$4,000	●
Functional Design				
1.1 Task 1	$5,000	$2,500	$2,500	●
1.2 Task 2	$7,000	$3,000	$4,000	●
Functional Build				
1.1 Task 1	$5,000	$2,500	$2,500	●
1.2 Task 2	$7,000	$3,000	$4,000	●
Report and Interface Design & Development				
1.1 Task 1	$5,000	$2,500	$2,500	●
1.2 Task 2	$7,000	$3,000	$4,000	●
1.3 Task 3	$7,000	$3,000	$4,000	●
Test				
1.1 Task 1	$5,000	$2,500	$2,500	●
1.2 Task 2	$7,000	$3,000	$4,000	●
Cutover and go live				
1.1 Task 1	$5,000	$2,500	$2,500	●
1.2 Task 2	$7,000	$3,000	$4,000	●
1.3 Task 3	$7,000	$3,000	$4,000	●
Total	$81,500	$39,000	$42,500	

Risks & Issues

Last   Current   Trend

Project Risks

Description	Owner	Mitigation

Project Issues

Description	Owner	Mitigation

Resources

	Last	Current	Trend
	●●●	●●●	●●●

Date	Resource #1	Resource #2	Resource #3	Resource #4
10/3				
10/4				
10/5				
10/6				
10/7				
10/10				
10/11				
10/12				
10/13				
10/14				
10/17				
10/18				
10/19				
10/20				
10/21				

FIS

FIS

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the Financial World

Change Management Request

Empowering
the Financial World **FiS**

Project: Enter Name Here

Client Details:

Client:	
Client Issue #:	

FIS Details:

FIS Americas	
FIS Change Management Issue #:	

Project Managers:

Name:	
Phone:	
Email:	

Name:	
Phone:	
Email:	

Change Request Synopsis:

Change Category:

☐ **Additional Functional/Business requirement**

☐ **Change to Functional/Business requirement**

☐ **Technical Enhancement – (Analysis, Coding and QA)**

☐ **Resource change**

☐ **Other (please specify):**

☐ **Travel and/or Expense amendment**

☐ **Additional Training requirement**

☐ **Installation / Technical configuration change**

☐ **Compliance, audit, change requirement**

☐ **Timeline Change**

Change Description:

Work Notes:

In Scope:	
Out of Scope:	

FIS

Incremental Effort Estimate:

Estimate (Days):	
Estimate ($):	

Estimated Impact on Project Schedule:	
Required Date:	Click here to enter a date.
Delivery Date:	Click here to enter a date.

Commercial Terms:

☐ Time & Materials

☐ Fixed Price

Person	Days	Rate	Cost	Chargeable Status
Grand Total:				

Payment Terms:

☐ On Delivery

☐ Monthly Billing

Approvals:

Name: _____   Name _____

Signed: _____   Signed: _____

Date: _____   Date: _____

Statement of Work for

OFFICE OF THE TREASURER-TAX COLLECTOR
RIVERSIDE COUNTY, CALIFORNIA

Quantum Treasury Implementation

Ryan C. Forshee

5/24/2018

Empowering
the Financial World **FIS**

Table of Contents

Introduction

The purpose of this Statement of Work (SOW) is to document the deliverables, scope, assumptions, and risk factors for the Riverside County Treasurer Collector (TTC) based on information provided in the March 2018 onsite scoping session, previous demonstrations and existing usage of ResourceIQ (FIS system). This document will serve as a baseline against which the project will be managed. The primary objective of this document is that all key project team members, from both TTC and FIS, will have a thorough understanding of requirements, expectations, and implementation strategies for the successful completion of this project. Items can be added or removed from this project through FIS' change management process.

Objectives and Goals

A given project or mission should have only one master objective, a key reason justifying for the existence of the project or mission. It is the answer to the "why" question or which added value has the project or mission, or what do we want to achieve with what this project or mission will deliver. Measurable goals are defined for the project, either to be achieved in the scope of the project or to be enabled by the project outputs.

The core objective of this project is implement a replacement system for ResourceIQ. Key objectives include:

a) Implement a daily cash reconciliation process that allows for both prior and intraday accounting processes

b) Implement a cash positioning process that automates and provides an accurate view across all relevant county accounts

c) Implement a cash forecasting view that allows the viewing, filtering and reporting of historical banking data

d) Implement a fund accounting process that:

   o Allows for the apportionment of interest across the 4 main groups; County and School fund participants and non-participants, allowing for variations of how interest is allocated across those groups including the two-tiered Cash and Accrual apportionment processes.

   o Create a process that is sustainable, avoids Riverside specific coding and limits any specific requirements to configuration changes around the process and associated reports.

Key Foundations and Principles

This section describes the key foundations and principles based upon which FIS has created this statement of work. They must be set and agreed match the agreement reached between FIS and TTC. Changes to these key foundations and principles will impact the contents of this document and call for a revision of its contents.

The following key foundations and principles have been set:

▫ This document focuses on identifying the implementation of required modules, interfaces, services, skills and resources, identifying core streams of work or activities and their associated effort. For the avoidance of any doubt, these services involve no development or customization to the core system;

and the project does not include any alterations and extensions to the contractual software and its respective documentation.

▫ As from the signature of the contract or agreement this document relates or is attached to, deviations to either the scope or approach described in this section and its sub-sections will be handled as project Issues or deviations through the standard FIS change management process.

▫ The TTC will take the lead in creating data extracts from Quantum using the standard reporting tools wherever possible.

▫ The TTC will provide 2-3 functional or business resources with an average allocation of 40-50% and 2 technical resources with an average allocation of 20-30% to the project. The duration of the project (TBD in a project plan) is based upon that allocation.

Scope and Approach

This section's objective is to describe each of the elements that can influence the project scope. Thematic tables are provided with a standard list of activities or deliverables, whether they are applicable or not to this specific project; what are the respective roles of FIS or TTC using a RACI convention (Responsible, Accountable, Consulted or Informed). Additionally, **a scope item in bold and followed by an asterisk sign (*)** indicates the presence of an attention point; this attention point is detailed under the related table and provide important and specific information related to the project or task.

Core Delivery Approach

FIS Professional Services best practices will be utilized to create a lean and delivery oriented approach. This approach relies on a defined set of activities and deliverables described in this section. Each iteration delivers a combination of documents and other deliveries that are considered stable, functional and ready for review, testing and validation by TTC.

	Applies	FIS	TTC
Workshops *			
▫ Project Kickoff	yes	RA	CI
▫ Blueprinting Workshop	yes	RA	CI
▫ Static Data Workshop	yes	RA	CI
Key Project Deliverables			
▫ Blueprinting Document	yes	RA	CI
▫ **Training ***	yes	RA	CI
▫ Functional configuration	yes	RA	CI
▫ Interface configuration	yes	RA	CI
▫ Technical assistance	yes	RA	CI
▫ Client Specific User Documentation	no	CI	RA
Project Governance *			
▫ Project Management including task assignment and tracking	yes	RA	RA
▫ Project Plan (Timeline and Effort)	yes	RA	CI
▫ **Budget and Invoicing Tracker ***	yes	RA	CI

□ Weekly Status Meeting and Minutes (as email)		yes	RA	CI
□ Monthly Steering Committee and Minutes		yes	CI	RA
Project Closure				
□ Support Handover		yes	RA	I

The following attention points are highlighted:

AP 1. **Workshops:** FIS and TTC will conduct a blueprinting session to define or confirm the project requirements, any data migration and roll out approach as detailed in this Statement of Work sometimes referred to as validation of scope.

AP 2. **Training:** FIS consultants will provide a combination of consulting and training. Training will come in the form of formal classroom style training as well as informal training working with subject matter experts. A train-the-trainer approach is the underlying and fundamental assumption for the effort associated with transitioning knowledge to the Singapore treasury team.

AP 3. **Project Governance:** FIS' general approach to Project and Program Management is described in the "Project Delivery Framework" document found in the Attachments section of this document. It includes key definitions, principles and additional details around project processes.

AP 4. **Budget and Invoicing Tracker:** The budget and invoicing tracker is updated monthly and is complemented by Invoices being produced monthly and distinguishing implementation services, managed services and occurred expenses. Whenever relevant, additional documents such as detailed timesheet reports and copies of expenses receipts are attached.

Functional Scope

The following table lists the key elements of the functional scope of the implementation or rollout:

	Applies		
Quantum Product, including:			
□ Cash positioning and forecasting	yes		
□ Bank reconciliation (daily cash)	yes		
□ Foreign exchange	no		
□ Investments and debt	no		

□   Interfaces and API solutions
 	
   o Data Loader
       ■ APS2 accounting entries
       ■ APS2 bank account balances
       ■ (3) PeopleSoft (PS) accounting entry imports – converted to fund bank account entries
   o Data extracts
       ■ TTC website GL account balances
       ■ TTC website bank statement / bankflows
       ■ PeopleSoft – daily schools
       ■ PeopleSoft – monthly numeric GL recon
	yes		

□ Interco loans via internal bank accounts (petty cash)	yes		
□ Intercompany loans (structured/term)	no		
□ Accounting	yes		
□ Reporting	yes		
Services:			
□ Report modifications and training	yes		
□ Static data and transaction migration	yes		
□ Testing	yes		
□ Training	yes		
□ Cutover	yes		

			Setup	FIS	TTC
□	Handover		yes		

The following attention points are highlighted:

N/A

Bank Reconciliation (daily cash reconciliation)

Quantum will be utilized to import bank statements via FTP to reconcile prior and intraday bank flow information as required. FIS will assist TTC with the creation of the necessary business rules to automate the reconciliation where possible via Quantum's transaction and Auto Match facilities.

		Setup	FIS	TTC
FIS Deliverables:				
□	Provide training on the Bank Reconciliation module including setup and maintenance of transaction rules as well as module related workflow, controls and standard reporting	yes	RA	CI
□	Create 25 transaction and AutoMatch **rules** for UBOC prior day data	yes	RA	CI
□	Create 25 transaction and AutoMatch rules for OBOC intraday data			
□	Configure the bank importer for BAI statements	yes	RA	CI
□	Automate the importation of bank statements received via Scheduler	yes	RA	CI
□	Support the reconciliation of all treasury related accounts within UBOC	yes	RA	CI
□	Option 1) Allow for the reconciliation of prior and intraday data that will reside in Quantum with accounting results captured as general categories (**clearing*** accounts) that will later be cleared via the import of accounting entries from PS (triggered by the manual entry of TCR's directly into PS and imported twice a day to Quantum). We have two options on how to handle the imported accounting entries from PS' 1) we simply import accounting entries that offset the Quantum entries avoiding duplicate entries or 2) we import those accounting entries but also generate bank (fund) account level entries. These bank/fund account entries can also create offsetting accounting entries avoiding any potential duplication of entries between PS and Quantum. The use of bank accounts will allow for the apportionment of	yes	RA	CI

interest at the bank account level as well as simplify reports like the Statement of Net Assets. Additional information provided in the Fund Accounting section of this document.				
□ Option 2) Quantum creates the correct accounting entries to begin with during the reconciliation processes and instead utilize the imported PS accounting data as more of a confirmation tool.				
□ Either scenario is not expected to have a material impact on the setup effort and the intended purpose is to eliminate potential duplicate entries as PS is incapable of importing the original accounting entries. Once concrete accounting examples are provided in the Blueprinting phase, the appropriate method will be determined.				
TTC Deliverables:				
□ Automate the retrieval of bank statements received via existing FTP processes		yes	CI	RA
□ Complete the validation and setup of static data related to Bank Reconciliation		yes	CI	RA
□ Complete the transaction and AutoMatch rules setup and ongoing maintenance		yes	CI	RA

AP 5. **Rules capture:** transaction and AutoMatch rules and scripts will be created to automate the matching of expected cashflows as well as the creation of cashflows for recurring items that can be routinely identified in the bank statements. It is expected that actual cashflows, account transfers and their associated accounting entries will be created from both prior and intraday bank reports as certain combinations of transaction types and funds/entities must receive current day credit (e.g. a school receives a high value wire). This will however result in a mixture of reconciled and non-reconciled transactions within the prior and intraday reconciliation applications, requiring the TTC to properly flag transactions requiring accounting and those that should be ignored.

AP 6. **Clearing:** 1) Accounting examples to be provided during blueprinting (or prior if possible)

CashXplorer (Cash Positioning and Forecasting)

Quantum's CashXplorer is a user-definable tool used for cash positioning and cash forecasting. CashXplorer will be used to create cash position worksheets that will gather information from the prior and intraday bank flows and intercompany loans as relevant including external data sources (e.g. AP or School related data from PS) for use in determining the daily cash position or forecast.

	Applies	FIS	TTC

FIS Deliverables:

▫ Allow for cash concentration to simulate any end of day ZBA movements		yes	RA	CI
▫ Display forecast data as captured (keyed, imported or system generated) in the system		yes	RA	CI
▫ Ability to capture adhoc transactions, balances and adjustments (e.g. sum total of EFT's or deposits)		yes	RA	CI
▫ Ability to categorize data in CashXplorer supported categories such as inflows, outflows, funds, bank accounts, banks, counterparties, etc.		yes	RA	CI
▫ Ability to preserve various cash position values or versions throughout the day		yes	RA	CI
▫ Ability to utilize historical and future dated transactions that can be captured within user defined time horizons (e.g. rolling 12 month forecast) or filtered in cashflow based reports		yes	RA	CI
▫ Retain historical bankflows and cashflows as a forecast repository / statistics		yes	RA	CI
▫ Provide training on the creation and modification of CashXplorer Worksheets and Views (Cash, Forecast and Summary)		yes	RA	CI
▫ Create one cash, forecast and summary view		yes	RA	CI

TTC Deliverables:

▫ Provide direction on the content and layout requirements (as supported by CashXplorer) for the worksheets		yes	CI	RA
▫ Complete the setup and testing of additional Cash, Forecast and Summary views and any ongoing maintenance		yes	CI	RA

Reporting

The system offers on-demand management reporting and it is anticipated that TTC will need to modify or create reports where Quantum's pre-defined reports do not meet the needs of TTC.

	Applies	FIS	TTC
FIS Deliverables:			
▫ Agree detailed reporting requirements and prioritize report changes against **budget**	yes	RA	CI
▫ Create and modify reports per user specifications	yes	CI	RA
▫ Provide report training	yes	RA	CI
TTC Deliverables:			
▫ Attend report training	yes	CI	RA
▫ Users to review and compare standard reports with existing legacy system reports to identify reporting gaps	yes	CI	RA
▫ Create report specification documents and/or user requirements and requests	yes	CI	RA
▫ Lead responsibility for the creation of data extracts and reports (excluding **Statement of Net Assets ***)	yes	CI	RA

AP 7. **Budget:** The number of days as outlined in the project plan is the amount of time allocated to working on reports for TTC, not the amount of time necessary to complete all reports required by TTC which has yet to be identified.

AP 8. **Statement of Net Assets:** requirements and associated effort based on previous 2016 finalized specification document and the assumption that all data comparisons will be amongst bank accounts as opposed to the current method of bank account vs. GL account.

Treasury Transaction Support

The following section documents the full list of transactions that will be captured during the implementation. These transaction types may be captured manually or via an automated process with some requiring both methods. The list depicts the transactions expected with this project implementation/engagement and those that may be required to be supported in the future but are not in scope for this current project.

	Applies	FIS	TTC
Transaction Types			
▫ Cashflows and Account Transfers	yes		

▫ FX spot, forwards and swaps	no		
▫ Intercompany loans captured via **internal** bank accounts (petty cash)	yes		
▫ Term **intercompany** * loans	no		
▫ Investments	no		
▫ Debt	no		
▫ Interest rate management	no		
FIS Deliverables:			
▫ Aid with the initial configuration of intercompany loans type of transaction including settlement, approval * and accounting	yes	RA	CI
▫ Aid in the manual input of rate types or names if required	yes	RA	CI
TTC Deliverables:			
▫ Provide detailed expected results for cashflow, accounting and settlements during testing	yes	CI	RA

AP 9. Intercompany overview: requirements are limited to the capture of petty cash related intercompany loans via internal bank accounts (e.g. treasurer to a fund). Loan attributes and requirements included

   a. No transactions are recorded, only the balances updated (however Quantum can capture the transactions and automatically updating the balance)

   b. Accounting will not be generated in Quantum

General Accounting

Quantum can generate balanced journal entries for all supported transaction types. For each instrument traded, the accounting department will need to provide detailed information regarding the treatment of each instrument type. This will then be used as the basis of the system prototyping.

FIS Deliverables:			
▫ FIS will provide training on setup and maintenance of the GL chart of Accounts, accounting and posting rules for a single PeopleSoft treasury chart of accounts	yes	RA	CI

▫ Aid in the configuration of **general** accounting *		yes	RA	CI
▫ Training for ongoing maintenance including market valuation, accruals and amortization month end processes (investment and debt related activities)		no	RA	CI
TTC Deliverables:				
▫ Provide the required chart of accounts, accounting rules (e.g. amortization), posting and intercompany rules		yes	CI	RA
▫ Provide accounting expertise to aid in the overall accounting configuration of accounting entries to be created in Quantum on a prior vs. intraday basis, document the requirements around any clearing accounts utilized. Provide the business logic behind the accounting created in PS as it relates to transactions that will be imported in Quantum (particularly if Quantum is to clear those accounting entries)		yes	CI	RA

AP 10. General accounting: as noted in the Bank Reconciliation section, specific logic and procedures will be required to utilize both prior and intraday data for accounting purposes without the risk of creating duplicate entries or inadvertently not booking required accounting entries.

Fund Accounting

*Quantum will support the overall capture of fund related transactions as well as the **fund accounting** * apportionment process. Approximately 3,000 funds are monitored that earn allocations of interest based on their balances throughout any given quarter. Allocations can be negative or positive and are based on the "dollar days" average (a weighted average balance) that is currently calculated in ResourceIQ. Based on those balances, a single interest amount provided by APS2 will be apportioned across the (4) four main groups; County Participating, County Non-Participating, Schools-Participating and Schools-Non Participating. Prior to the allocation process the TTC will manually break down that amount into a Cash amount (cash on hand) and an Accrual (future interest) amount so each can be run with its own allocation process.*

FIS Deliverables:				
▫ FIS will provide training on the setup and maintenance of the **fund accounting process** *		yes	RA	CI

		yes	RA	CI
▫	Provide required fund accounting interfaces as designated in the System Interfaces section	yes	RA	CI
▫	Aid in the testing of one quarter of historical data	yes	RA	CI
▫	Configure fund accounting static data input and maintenance screen(s)	yes	RA	CI
▫	Configure fund accounting interest apportionment screens (processing, allocation review and posting/reporting of the allocations)	yes	RA	CI
▫	Configure general fund accounting or allocation business logic such as the calculation of weighted average "dollar day" balances, the calculation of interest allocation amounts per fund based on the dollar day balances, review of expected allocations prior to posting and the final allocation process itself.	yes	RA	CI
▫	Configure TTC specific fund accounting logic such as the support of two separate processes for **Cash and Accrual based allocations ***, County vs. Schools and **participating vs. non-participating**	yes	RA	CI
▫	Create the Statement of Net Assets report	yes	RA	CI
TTC Deliverables:				
▫	Provide the required chart of accounts, accounting rules (e.g. amortization), posting and intercompany rules	yes	CI	RA
▫	Provide accounting expertise to aid in the overall fund accounting configuration. Provide the business logic behind the accounting created in PS as it relates to transactions that will be imported in Quantum (particularly if Quantum is to clear the PS accounting entries)	yes	CI	RA

AP 11. Fund accounting: both the requirements and effort associated with the fund accounting process are predicated upon the concept that the fund accounting process will be bank account based as opposed to GL account as it is currently. Quantum can generate the required accounting entries from the bank account entries or validate, reconcile or clear the accounting entries where they are generated in PeopleSoft if required.

AP 12. Cash and Accrual: these processes are identical in nature but must be able to be run simultaneously with the results and reports identifying if the process was run as the Cash or Accrual apportionment.

AP 13. Participating vs. non-participating: certain funds are not allowed to earn interest and are designated as non-participating resulting in their allocation be added to the participating funds.

AP 14. Fund Accounting Process

a. Static data elements will be captured upon the initial setup (such as fund descriptions or target funds which represent the actual recipient of a fund's interest allocation – e.g. Fund A contributes its interest allocation to Fund B)

b. For both the Cash and Accrual amounts, the allocation process is run twice:

i. The first run is across all four groups displaying potential allocations for each individual fund as well as totals for each of the four groups.

ii. The second time the process is run the Non-Participating totals for County and Schools are "added back" to the County-Participating and Schools-Participating overall allocation amounts and re-processed excluding all non-participating funds. (certain funds are not eligible to earn interest on their funds and therefore are added to the participating funds).

iii. For County allocations, the interest apportionment is calculated within Quantum and an interest apportionment file is sent to PeopleSoft (PS) where the actual accounting entries are recorded. Once processed a file will be sent back to Quantum with the actual accounting entries for importation.

iv. For School allocations, the interest apportionment is calculated and a file is sent to PS. It is this file that contains the clearing account type entries referenced in this document. PS will process the allocations (detailed journal entries) and a file will be sent back to Quantum with those accounting entries to be imported. These will offset the Quantum generated clearing accounts and post the detailed fund level entries. As an example, if Fund A was allocating a total of $60 to multiple targeted funds, the initial reporting data sent to PS might look like:

Dr Clearing Account $60

Cr Fund A $60

The entries received back from PS into Quantum may then appear as:

Cr Clearing Account $60

Dr Fund B $20

Dr Fund C $20

Dr Fund D $20

v. When journal entries are input or imported into Quantum and any of the Debit or Credit GL accounts are attached to a bank account, Quantum will automatically create a bank account entry representing the cash movement. Quantum can use the fund reference in the PS accounting entries to also ensure the fund related bank account balance is updated. Again, this will allow an entirely bank account based apportionment and reporting process (with GL entries created from those bank account entries). As a result, the system could also generate the below:

Bank account based entries of:

$20 each for Fund's B, C and D.

Accounting entries of:

Cr Clearing Account $20

Dr Fund B $20

Cr Clearing Account $20

Dr Fund C $20

Cr Clearing Account $20

Dr Fund D $20

System Interfaces

In addition to the interfaces listed below, the dealing programs (e.g. AC or AT deals) allow for the importation of cashflow data via Quantum's standard text file format (QXT). Any application (e.g. Excel) that can produce these file types may also be considered a potential interface tool.

	Incoming	Outgoing	Lead Responsibility	Format	Integration Platform	Integration (Event, Service, Batch)
	X		TTC retrieval, FIS import scheduling	BAI2	FTP	FTP event, import event
	X		FIS	Text file(s) School File is RVJV.TXT, AP/AR files are RVGLI121.dat and RVGL122.dat	API	Service
	X		FIS	Text file(s)	Standard reporting	Event

	Applies	FIS	TTC
FIS Deliverables:			
□ Configure and automate the import of bank statements	yes	RA	CI

□	Configure existing **Data Loader** * to support the import of (3) PS files; (2) schools files and (1) AP and AR file		yes	RA	CI
□	Configure existing **Data Loader** * to support the import of (2) APS2 files; (1) APS2 bank account balance updates and (1) APS2 accounting entries		yes	RA	CI
□	Aid TTC in configuration of data extracts for PeopleSoft; (1) Daily schools and (1) monthly recon for numeric GL accounts		yes	CI	RA
□	Aid TTC in configuration of data extracts for TTC internal website; (1) GL account balances and (1) bank statements/bankflows		yes	CI	RA
TTC Deliverables:					
□	Provide all detailed interface configuration requirements	n/a	yes	CI	RA
□	Configure the Scheduler to support any additional tasks or jobs required	n/a	yes	CI	RA
□	FTP retrieval of UBOC bank statements	n/a	yes	CI	RA
□	Data extracts listed in the grid above	n/a	yes	CI	RA

AP 15. Data Loader: FIS to configure the service to support the above listed inbound interfaces including training for the setup and mapping of additional transactions. Specifics around file delivery, timing, deal staging to be determined during Blueprinting discussions or interface specification process. Any imported accounting entries are automatically checked to ensure that debits and credits are balanced.

Historical Data Import

The following table provides details on key data elements to be keyed in or imported as supported. The shared responsibilities in the table are intended to demonstrate a collaborative effort utilizing both parties' expertise.

	Applies	Import	FIS	TTC
Data Migration Strategy Document	yes	n/a.	n/a	n/a
Static Data:				
□ Banks, bank accounts, counterparties and counterparty bank accounts	yes	yes	RA	CI

▫	Entities	yes	yes	RA	CI
▫	**Calendars** *, Currencies and Locations	yes	yes	RA	CI
▫	GL accounts	yes	no	CI	RA
User Management Data					
▫	Users and User Groups	yes	yes	CI	RA
▫	Security (Menu)	yes	no	CI	RA
Transactional Data *					
▫	Cashflows or Transaction	yes	yes	CI	RA
▫	Fund related cashflow history	yes	yes	CI	RA
FIS Deliverables					
▫	Provide static data and transaction import templates	yes	n/a.	RA	CI
▫	Provide training on the relevant fields and descriptions for each transaction imported	yes	n/a	RA	CI
TTC Deliverables					
▫	Populate and validate the imported static data	yes	n/a	CI	RA
▫	Populate, import and validate any historical transactions or rates	yes	n/a	CI	RA
▫	Reconcile any cash or accounting values from imported transactions for each entity upon Cutover	yes	n/a	CI	RA

The following attention points are highlighted:

AP 16. Transactional Data: TTC will not import any historical data and will instead import only items in position at the time parallel commences

AP 17. Calendars: calendar data to be supplied and validated by TTC

Documentation

The following section shows each documentation deliverable. Please refer to Appendix for any sample documents meant to be indicative of the deliverable.

	Applies	FIS Lead	TTC Lead

Documentation				
o N/A		yes	N/A	Y

Testing

This section describes the general testing principles, activities and deliverables relevant to the project. Implementation and additional Deployment or Rollout sections found later in the document include specific details related to testing and may refine the information described here.

The activities and deliverables foreseen in the context of Testing are:

	Applies	FIS	TTC
Test Levels			
□ Unit Test	yes	RA	I
□ **System Integration Test ***	yes	RA	I
□ **User Acceptance Test (UAT) ***	yes	CI	RA
□ Parallel	yes	CI	RA
Test Data Sets/Scripts *	yes	CI	RA

The following attention points are highlighted:

AP 18. System Integration Test: refers to Quantum and all its components and modules - including 3rd Party interfaces (e.g. PeopleSoft) delivered as part of the implementation. It does not include integration with systems other than Quantum unless delivered by FIS and referenced within this SOW.

AP 19. User Acceptance Test: The User Acceptance Test is a broader validation of multiple Unit Tested elements and is sub-divided into several activities:

    a. TTC formally tests each module or function within a mutually agreed duration following successful Unit Testing. The objective is to provide early feedback on gaps and issues and maximize the quality of the UAT and Parallel.

    b. TTC formally validate the scope or provide feedback on gaps and issues found. FIS shall then correct these gaps and issues and maximize the quality of the subsequent monthly deliveries.

AP 20. Test Data: FIS expects TTC to deliver relevant test data as well as copies of Production input and output files to support testing activities.

Training

The activities and deliverables foreseen in the context of Training are:

	Sessions	Applies	FIS	TTC
Training Strategy Document *		optional	Tbd	Tbd
User Training				
▫ Quantum Overview (1 day)	1	yes	RA	CI
▫ **Train the Trainer ***	1	yes	CI	RA
▫ **End User Training ***	n/a	optional	n/a	n/a

The following attention points are highlighted:

AP 21. Training strategy: upon project commencement, a training strategy document will need to be created detailing the training methodology including additional training needs, environmental requirements, support materials, timing etc.

AP 22. Train the Trainer: Training is delivered to TTC professionals responsible to further distribute and deliver the training within TTC. The training is delivered with standard training material. Custom training materials and delivery on TTC premises can be arranged but are subject to additional efforts not scoped here.

AP 23. End User Training: FIS can deliver training directly to end users across the TTC organization on standard (preferred) or custom training materials, either as a full managed service or in partnership with TTC training resources. This option has not been scoped in the context of this document but can be further discussed if applicable.

Support Handover

- Upon successful completion of the implementation of Quantum, the FIS project team will work with TTC to enable the transition to Client Services
- FIS support services will be the primary contact after "Go Live" post the hypercare period
- The FIS Implementation Consultant and Project Manager will review TTC setup, all signed documents, and all open issues (if any) with Client Services.
- The FIS Implementation Consultant will be a resource to assist the support desk, post implementation with regards to TTC implementation structure.
- Any existing issues that prevent TTC from carrying out their normal workflow will be resolved prior to turnover to FIS's support team. TTC and FIS will jointly agree when these conditions are met.

Out of Scope

Item Name	Description
Additional Software	FIS will not be responsible for supporting software programs that are not directly integrated with the Quantum application.
Audit or Desktop Procedure Documentation	FIS will not be responsible for Audit or Desktop Procedure information except for standard deal, static data and security reports already existing within Quantum
eBam and Bank Fee Analysis	TTC has not determined a need for eBam or BFA.
Investments and Debt	Investments are captured in APS2 and debt issuances have been deemed out of scope.
Payments	Payments are not in scope within Phase 1 and under consideration for a future phase
Other Functionality	Any other functionality not listed within this document is considered out of scope for this project.
Other Interfaces	Any other interfaces not listed within of this document are considered out of scope for this project.

Deployment or Rollout

Deployment or Rollout refers to extending the business or functional scope by bringing additional entities onto the platform. It might be scoped from a geographical, entity, bank or a combination of any of these possible perspectives. It is typically organized in successive phases and for TTC would be relevant to any future commodity needs or locations.

The activities and deliverables foreseen in the context of the Deployment or Rollout are:

	Qty	Applies	FIS	TTC
Deployment Strategy Document *	1	TBD	RA	C
Extended Hypercare *	1	optional	RA	C

AP 24. Deployment Strategy Document: This document aims at describing the process by which FIS and TTC are:

FIS

  a. Setting up an iterative deployment process including as many phases as required by TTC to globally deploy the platform and supporting growing TTC independence in performing their own deployment can be performed post contract execution

  b. Discussing and agreeing on the contents and timing per phase

  c. Collaborating to ensure the preparation, configuration, testing and migration of the deployment of each phase

  d. Updating the Deployment Strategy Document as per the lessons learned, context changes and updated objectives of the rollout phase

AP 25. Extended Hypercare: A hypercare period of a maximum of one (1) month is typically provided with each phase with 25% staffing. After that period and in the absence of Critical or Major defects, support is handed over to FIS Customer Support. During the hypercare period, FIS Professional Services will provide TTC with:

  a. Workaround and fixes for any defect identified by TTC and relevant to the scope of the phase

  b. Assistance to TTC for issues (questions, consultancy and support) analysis and resolution for up to one (1) man-day a week. If this assistance extends to more than a man-day a week, a project deviation is created and its budget and effort impact is discussed with TTC

  c. Past this hypercare period, support of the solution is handed over to Customer Support. Depending on the nature of the incidents that may arise, Professional Services consultants may be involved by Customer Support as 2nd or 3rd line support on a limited basis.

  d. The project plan contains optional or extended hypercare that would provide a dedicated FTE for one full month

Resources

FIS Treasury Project Team

FIS Treasury project team will be composed of the following. Please refer to the Resource Allocation document for an expected FTE allocation by resource.

FIS	Responsibilities
FIS Global Head of Professional Services	• Provide project scoping including documentation of Statement of Work and Project Plan • Transition of knowledge and decisions gathered during the sales process to the implementation team
FIS Director of Professional Services	• Ensure all contractual obligations are met • Attend regularly scheduled Steering Committee meetings
Account Manager	• Transition of knowledge and decisions gathered during the sales process to the implementation team
Project Manager	• Work with TTC Project Manager(s) to prepare agreed upon project plans and schedules • Commit FIS resources as needed for the project • Facilitate internal FIS and external meetings with TTC • Provide overall direction for the plan including day to day work direction • Monitor and report project progress / project plan and budget • Document all changes to project scope or plan • Define and implement necessary system controls: • Coordinate the integration of project activities • Review and provide feedback on Steering Committee documentation
Consultants	• Provide training and consulting in accordance with the Project Plan • Resolve system functional issues and bugs • Configure treasury workstation • Provide Treasury expertise to the project team
Technical Consultant	• Installation of Quantum – n/a • Resolve system technical issues

TTC Project Team

FIS formulates the following expectations and assumptions related to TTC project team:

TTC	Responsibilities
TTC Program Sponsor	• Overall responsibility for implementing the TTC project
TTC Project Manager	• Work with FIS Project manager to Manage the project: • Day to day work direction of TTC resources • Monitor and report project progress / project plan and budget • Coordinate the integration of the system and other system activities • Coordinate with IT and other service providers • Coordinate user acceptance testing • Prepare Steering Committee documentation • Facilitate meetings with 3rd parties (e.g. Bloomberg)
Cash and Fund accounting Representatives	• Provide cash management expertise • Provide fund accounting expertise • Configure treasury workstation Front Office
Back Office Representative	• Provide BO/Cash management expertise • Configure treasury workstation back office
Accounting	• Provide Treasury and TTC Accounting Expertise • Configure treasury workstation accounting • Perform user acceptance testing of treasury workstation accounting
IT Support and Interfaces Analyst	• Manage technical aspects of the project • Coordinate technical issues with FIS • Implement Interfaces • Create security administration principles • Create technical specifications of enhancements / reports

Delivery Process

Key Principles

In complement to the standard delivery approach, the following principles and assumptions are applied as far as the delivery of the solution is concerned:

1. Within an initiation phase post contract execution, we will organize the Kick-off meetings as well as the required workshops, each participating to setting up a baseline to the project and building the project backlog

2. It is followed by a Blueprinting phase that typically spans 2 to 4 weeks after which time the project timeline will be confirmed.

3. TTC performs the User Acceptance Testing within the project plan timeframe and consolidate its feedback in a test report

4. It is expected that a knowledge transition document will be required to outline the timing of specific roles and responsibilities amongst the users, particularly as those responsibilities shift.

5. The Core Implementation Hypercare period starts as soon as the solution is live and ends with the formal handover to FIS Customer Support teams. During that period, the FIS Professional Services remains the first line of contact and will handle both issues and consultancy or support requests.

6. Subsequent phases are launched in cascade led by TTC resources with the support and consultancy of FIS Professional Services as a second line. In case, the role of FIS can be augmented and cover more activities in the scope of the Deployment.

Steering Committee

Objective	To ensure delivery of project on-time and within budget
Attendees	• Program Sponsors • Project Managers • Business Leads • FIS Management Contact (as required) • FIS Implementation Manager
Agenda	• Review progress to date including budget (FIS and status reports) • Discuss project and / or personnel issues • Review project scope changes • Review detailed project plan for the next month • Ensure proper allocation of resources
Frequency	Monthly, or as needed when escalation issues arise
Location	As applicable
Minutes	TTC Project Manager

Progress Review Meeting

Objectives	• Closely monitor project progress • Weekly Achievements • Address Issues
Attendees	• Project Managers • Business Leads • FIS Project Manager • FIS Senior Consultant and / or Consultant • Project Team Members • Others, as needed
Agenda	• Review Project Plan status and task lists • Discuss and sign-off on FIS trip reports • Discuss the outstanding items in the issue log
Frequency	Weekly
	As appropriate
Minutes	FIS Project Manager

Change Management

It is critical to control changes to the Project Plan and scope so that the schedule and budget are not negatively impacted. In addition, legal and contractual implications must be considered before changes are implemented.

To ensure changes are properly considered, the following change management process will be followed.

1. Identify and document change including justification, cost and schedule impact
2. Obtain appropriate management and budget approval (see table below).
3. If approved, update the project plan to accommodate the change.
4. Record change and monitor status in a change log

Four types of changes are anticipated. Following are the approvals required for the different types of changes.

Nature of Change	Approval Process
Scope change based on clearer requirements, modified approach, etc. which can be accommodated within the current Quantum configuration with no impact on cost & schedule.	• Endorsement by FIS and TTC Project Manager(s), and FIS Implementation Manager
Scope change which impacts either or both project cost and schedule	• Initial agreement by Steering Committee to explore and estimate the proposed scope change • Sign-off by FIS Management Contact, Program Sponsor(s), and Project Manager(s)
Scope change which requires configuration to an existing Quantum module	• Estimate (effort, timing, cost) and commitment to deliver to be provided by FIS Implementation Manager • Agreement from FIS Implementation Manager, Project Manager(s), and Business Lead(s)
Scope change which requires the purchase of an additional Quantum module from FIS	• Agreement from FIS Project Manager, TTC Program Sponsor(s), and TTC Project Manager(s)

Escalation

In case any of the service and project delivery fails to meet the description provided in this document and the FIS Corporate Payments Project Team cannot address these deviations through mutually agreed plans and actions, the following escalation path is provided to gather additional support and resources to the resolution of the related issue(s):

Issue	First level of escalation	Second level of escalation
Clarification or question on functional specifications	FIS Project Manager	Steering Committee
Systems / technology problems	FIS Project Manager	Steering Committee
FIS Resource issues	FIS Project Manager	FIS Management Contact

Resource issues	Respective Project Manager (FIS or TTC)	Steering Committee
Scheduling / deliverables	Respective Manager (FIS or TTC)	Steering Committee

Risk Management and Project Risks

In case any of the service and project delivery fails to meet the description provided in this document and the FIS team cannot address these deviations through mutually agreed plans. Please refer to the Risk and Issue Management .pdf in the Attachments section for a full description of the risk mitigation process. Below you will find a list of common project risks as well as specific risks for TTC.

Transfer of TTC business processes knowledge to ensure the system meets TTC requirements	Project Team commitment to Site Audit, Scoping Meetings, and review of functional specification s Signoff of specification s prior to commencement of configuration	Project Team
Disruption to day to day business activities by staff commitments to the project or staff turnover	Resource management of Project Team members required.	TTC Project Manager
Decisions not made in a timely manner to resolve issues	Issue management and escalation procedures if high priority issues are not resolved within required timeframe	TTC Project Manager, FIS Project Manager and Implementation Consultant
Lack of user acceptance of the system	Get user involvement early, ensure adequate user training and system testing	TTC Project Manager, Project Team
Lack of availability of IT	Get early commitment from IT	TTC Project Manager
Lack of ownership of the project	Ensure commitment of the Project Team	Project Sponsor, TTC Project Manager
Project run over budget, time	Commitment to Project Management Process	FIS Project Manager, TTC Project Manager
Issues/problems not communicated in a timely manner.	Participation in status and issues meetings	Project Team
General scope creep	Adherence to SOW and Project Plan	FIS Project Manager, TTC Project Manager
Lack of availability of resources during implementation.	Realistic estimate of percent of time available for the project. communication of blackout periods during implementation. Reflection of	FIS Project Manager, TTC Project Manager, Project Team

	Mitigation Strategy	Responsibility
	resource constraints within the project plan.	
Lack of acceptance from TTC Accounting.	Get TTC Accounting involved early in the Implementation. Meeting to discuss accounting implications of the system. TTC accounting should collaborate with Quantum during the initial setup of the financial instruments in the system.	TTC Project Manager, FIS Implementation Consultant, TTC Accounting.
Lack of acceptance from TTC Audit Group.	TTC involvement in Unit Testing. Careful documentation of desk procedures.	TTC Project Manager, TTC Audit, Operating Groups
Functionality pending Blueprinting	Identify requests which represent potential risk from a financial or duration perspective	TTC Project Sponsors, TTC Project Managers, FIS Professional Services
Lack of coordination with another system configuration	There may be other system changes which will need to be considered/aligned with the Quantum implementation. TTC will need to perform a detailed review of the project requirements	TTC Project Manager & IT

Roles and Responsibilities RACI

Responsible party: key participant in the deliverable. Can be one or more "R" roles;

Accountable party: ultimate responsibility for deliverable. Can be only ONE "A" role;

Consulted or Contributing party: acting as SME but not key participant;

Informed party: impacted, but not typically involved in the deliverable.

−   ** Based upon an FIS hosted system

Step/Category	Project Task	XYZ	FIS	3rd Party	Product Expertise Needed
Project Governance	Steering Group	R	A	I	N
	Project Planning	A	R	A	Y

	Project Plan Maintenance	R	A	I	N
	Weekly Project Meetings	R	A	I	N
	FIS Team Management	C	R	I	Y
	Client Team Management	R	I	I	N
	3rd Party/Integrator Team Management	C	I	R	N
	Program Management	A	C	R	N
Initiation	Treasury Process Re-engineering	R	I	A	N
	Process Documentation (As is -> To be)	R	I	R	N
	Blue Printing Document	A	R	I	Y
	Scope Document	A	R	C	Y
	Scope Sign-off	R	I	I	N
	Project Kick Off Meeting	R	A	C	N
	Project Team Assignments	R	R	I	N
Environment Setup	Hardware setup	I	R	I	N
	Software Environment configuration	I	R	I	N
	FIS Product Installation	I	R	I	Y
	Environment Testing	C	R	I	Y
	Environment Signoff	R	A	I	N
System Build	Static Data Collection	R	C	I	N
	Static Data Setup & Test	A	I	I	Y
	Static Data Signoff	R	C	I	N
	Interface Definition	A	R	C	Y
	Interface Configuration	A/C	R	I	Y
	Interface Test	A	A	I	Y
	Interface Signoff	R	I	I	N
	Accounting Design/Definition	R	A	I	Y
	Accounting Setup & Test	A	A	I	Y
	Accounting Signoff	R	I	I	N
	Security & User Rights Definition	R	A	C	Y
	Security & User Rights Setup & Test	R	A	C	Y
	Security & User Rights Signoff	R	I	I	N
	Confirmations Definition	R	A	C	Y
	Confirmations Setup & Test	C	R	C	Y
	Confirmation Signoff	R	C	I	N
	Reporting Definition	R	A	C	N
	Reporting Setup & Test	R	A	C	Y
	Reporting Signoff	R	I	I	N

	Risk Reporting Definition	R	A	C	Y
	Risk Setup & Test	C	R	C	Y
	Risk Signoff	R	C	I	N
	Cash Management Definition	R	A	I	Y
	Cash Management Setup & Test	A	R	I	Y
	Cash Management Signoff	R	I	I	N
	System Training	A	R	I	Y
	Deal Simulation/Transaction Testing				
	Investments	A	R	I	Y
	Debt	A	R	I	Y
	Commodities	A	R	I	Y
	FX	A	R	I	Y
	Interest Rate Derivatives	A	R	I	Y
	Multi-Lateral Netting	A	R	I	Y
	IHB and Intercompany Term Loans	A	R	I	Y
System Implementation	User Acceptance Test Planning	R	C	A	N
	User Acceptance Test Scenario	R	C	A	Y
	User Acceptance Test Execution	R	C	A	Y
	User Acceptance Test Signoff	C	I	I	N
	Audit Documentation	R	C	R	N
	Procedural Manuals	R	C	R	N
	Internal Application Support	R	C	I	Y
Historical Data	Data Migration Planning/Strategy	R	C	A	N
	Data Migration	R	C	A	Y
	Data Migration Signoff	R	I	C	N
Parallel Run	Parallel	R	C		Y
	Parallel Signoff	R	C	C	N
Support Handover	Handover Documentation	C	R	C	Y
	Support Handover Meeting	A	R	I	N

Attachments

The following documents are attached to this Statement of Work and provide additional information as to how FIS approaches some of the topics and activities mentioned in this document:

Statement of Work Addendums	Version	Attachment
▫		
Methods and Practices	**Version**	**Attachment**
▫ Project Delivery Framework ▫ Risk and Issue Management	Q2 2018	Project Delivery Framework 2018.p Risk Mitigation.p
Standard Templates		
▫ Steering Deck ▫ Change Request	Q2 2018	SCM Template - Quantum.pdf Sample Change Request.pdf

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