Managing an ITIL SaaS Implementation IT program: A Case Study

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Abstract

The case study "Managing an ITIL SaaS Implementation IT program" provides insight into the management of multi-year MSP-programs. Techniques will be shown how to manage dynamic complexity of such programs, how to setup and run in parallel running projects with pre-defined feedback loops to control scope, time and budget. This paper describes activities carried out during program initiation, program setup, delivery of program benefits and program closure. On project-level activities are described to concept, design, build and operate SaaS services. This paper concludes that building feedback loops on program and project level will help to obtain program benefits in a controlled way.

Introduction

Dynamic complexity is seen by researches in the project management field as one of the primary cause for project failure. This is especially true for large IT programs with durations of several years. This case study shows how system dynamics of large-scale programs can be managed by setting up feedback-loops to preserve program benefits. We investigate in detail processes, tools and techniques used in a complex multi-year ITIL SaaS implementation IT program. Interested program managers may adopt these techniques into their own engagements. During the program lifecycle constantly new projects will start within the program. Many projects will also run in parallel with other projects sharing the majority of the project team and using the same shared infrastructure resources. We will look at used techniques to repeatedly generate projects out of the program and how this can be done in an efficient and simplified way based on scope statement and project plan templates. Shared human and infrastructure resources are managed in weekly plans which impose visible resource constraints on parallel running projects. Project managers of the program monitor progress and budget of their projects with pre-defined feedback loops by using on one hand the percent complete figure inserted into the project plan and on the other hand the actual hours submitted on timesheets from each assigned resource of tasks. With this information an estimate to complete is calculated on a weekly basis to give an early warning about a deviation from the plan with regard to schedule, efforts or budget. The presentation concludes with a monthly bird's eye look at the whole program using accumulated KPIs over all projects compared to initial plans and budget of the program.

Motivation

According to the PMI Standard for Program Management (PMI, 2008a, Chapter 1.2 What is a Program, Kindle location 1103), "A program is a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually".
This paper is about the experiences of the author gained managing an ITIL SaaS implementation IT program. IT Program Management is the process of the management of several related IT projects to obtain the defined utility to the business of the customer. In our case the target of such a program is to build a shared IT software environment which is used by more than one end customer as tool support for several ITIL processes like incident or problem management. The customer is providing these services as Software as a Service (SaaS) and the end customers are interacting with their instance or tenant trough the web browser or via E-Mail. The SaaS environment provides tool support for one or more ITIL processes for one or more end customers. The hosting infrastructure environment is operated by the customer as a SaaS solution (Wikipedia, 2012a) for their end customers accessing this shared environment. After the shared infrastructure environment was built and setup for the first customer who is on-boarded as a tenant of the multi-tenanted system further SaaS customers are added to the same shared environment. To avoid disruption of already productive tenants this environment consists beside of the production (PROD) environment of an architecturally identical (DEV) and testing (QA) environment. Activities, changes and maintenance on any of the environments are managed through a weekly

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rolling plan. It is a special task schedule to avoid productive outages of already productive tenants during on-boarding of new tenants. For a detailed description see Exhibit 11.

This paper is showing the process and techniques how 10 projects could be managed in "green state" with regard to the criteria schedule, budget, scope, resources (see in Exhibit 5).

The importance of feedback loops in dynamic systems

According to the ITIL strategy book (Taylor, S., Iqbal, M., Nieves, M., 2007, p23), IT organizations can be visualized as dynamic systems with functions and processes. Each process or function can provide to each other feedback towards the goal of meeting the customer objectives.
Any delay in negative feedback towards the goal may lead to oscillations in this dynamic system due to intervening corrections. In the end any delay may have a destabilizing effect to the system.
Feedback loops in form of reporting and improved measurement can reduce this destabilizing effect.

Grösser, S. N. (2011) sees the reason for many unsuccessful projects in unmanaged dynamic complexity.

The implementation of a sufficient number of feedback loops is especially important for programs as it involves multiple projects where each project can be seen as dynamic system interacting with other projects, with the program itself, with the IT organization and with the business of the customer.

On the other side the effort for program and project managers to define and regularly evaluate feedback loops has to be considered. It is probably one of the most challenging tasks for the program manager is to select the correct types and number of feedback loops so that on one hand the program is not destabilized and on other hand the administrative effort for maintaining feedback loops is in an acceptable range.

General information about the ITIL SaaS IT implementation program

We want to give you first a brief general description about the program:

Setup of the Program

The program was set up with a predefined budget and amount of days. The size of the program is determined by the size of projects in the pipeline. Additionally there is a split of the effort among different project roles like Project Manager, Sr. Consultant, Offshore Delivery and Architect. According to the planned effort per role the total program contract value can be calculated.

The project pipeline is defined in a table and lists on the one side all planned projects and on the other side the monthly expected effort. This baseline planning sheet is used to compare it with past project months and the updated project pipeline (see Exhibit 5)

Setup of Projects within the Program

All work performed needs a formal request and approval to set up a new project within the program. Each project requires a detailed WBS and a reviewed estimate by at least one Architect. The project manager builds a Microsoft Project plan with a detailed set of tasks, assigns resources, adds dependencies between tasks, adds non-availability in the project team calendar and verifies that the estimated effort is matching the total work of the plan. After all is defined it is important that the project manager schedules a final meeting to walk through all work packages, assumptions and all documents in a final review meeting. Any changes in any of the defined documents need to be clarified between the supplier and the customer.

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Execution

Early detection of any cost or effort overruns

Project progress is updated weekly by the project manager by a walk-through of all tasks to be performed with each assigned project member. Each member is asked about the percent work complete figure of his assigned tasks which is then updated in the project schedule.

In the resource view of the project plan actual and remaining work for each task is shown. Additionally actual work performed by each consultant is collected from weekly timesheets. With this information the expected total effort and total costs of the project are calculated by using the spreadsheet shown in Exhibit 10. This process is repeated by each project manager for each active project at least on a weekly basis. This indicator delivers an early warning for a possible effort and budget overrun. For IT programs efforts and budgets are of extreme importance because the customer is expecting cost savings through the implementation of the program. Often the program benefits are lost if this indicator is ignored and cost overruns occur.

This approach also allows a better detection of scope changes or additional work packages that aren't part of the existing project plan. Whenever this happens a new change request will be added to the change request register which then will be analyzed, described and discussed with the customer if and when it makes sense to be implemented.

Closure

It is important to deliver early and regularly benefits to the program. In our program it is important to reach at least every month a milestone which gets visible to the business. Good examples are the on-boarding and go-live of new tenants (end-customers) into the shared environment and the enrichment of supported ITIL processes as well as the extension of base functionality i.e. to add single sign-on and federation for end-customer to avoid user/password logins in the shared service desk environment.

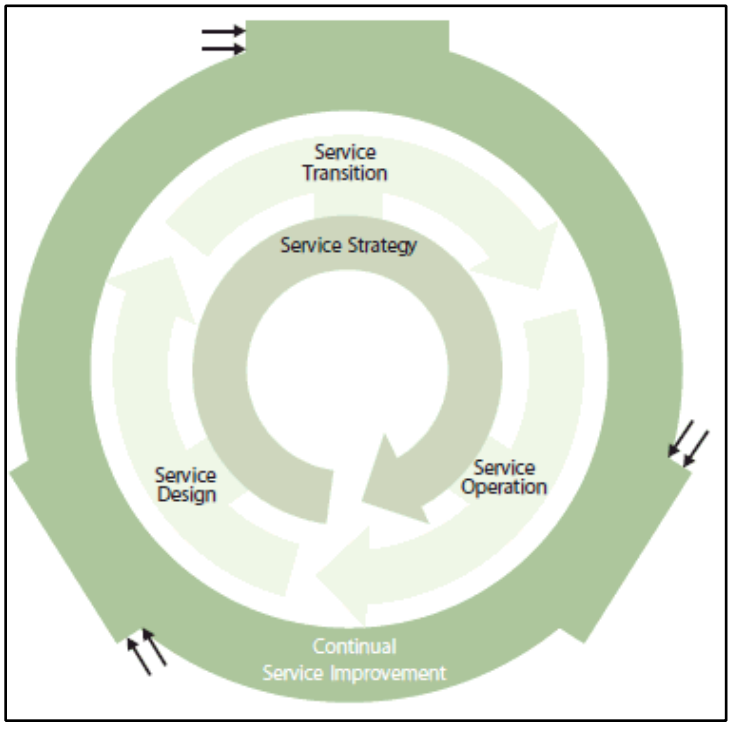

Exhibit 1 (Taylor, S., Iqbal, M., Nieves, M. , 2007, p24)

The implementation of our SaaS environment is based on the concept of the ITIL Service Life Cycle: "Service Design, Service Transition and Service Operation are progressive phases of the Lifecycle that represent change and transformation. Service Strategy represents policies and objectives. Continual Service Improvement represents learning and improvement. Service Strategy (SS) is the axis around which the lifecycle rotates. Service Design (SD), Service Transition (ST), and Service Operation (SO) implement strategy. Continual Service Improvement (CSI) helps place and prioritize improvement programmes and projects based on strategic objectives." (Taylor, S., Iqbal, M., Nieves, M. , 2007, p24).

Exhibit 1 illustrates this concept: Figure from: (Taylor, S., Iqbal, M., Nieves, M. , 2007, p24).
Program mangers interested in ITIL should read the complete ITIL v3 book set: Service Design (Lloyd, V., Rudd, C., Taylor, S., 2007), Service Transition (Lacy, S., MacFarlane, I., Taylor, S., 2007), Service Operation (Cannon, D., Wheeldon, D., Taylor, S., 2007) and Continual Service Improvement (Case, G., Spalding, G., Taylor, S., 2007).

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Feedback loops

This section presents examples which implement feedback loops. These examples show the techniques and tools that have been used in our program and how you as interested program manager might adopt these into your engagement.
Please note that for nondisclosure reasons the numbers shown in the tables are random.

For the success of the program it is important to introduce a set of feedback loops which are regularly evaluated to see if benefits of the program are achieved and if all projects are in scope, time and budget.

We distinguish on feedback loops on program and project level. If possible we also like to have more than one view to the same indicator to see if the calculations behind are correct.

Program Level Feedback Loops

On program level it is important to see the status of the whole program and its projects in a view at a glance. This paper will present two views: A bottom-up view from project level and a top down view from program level.

- Bird's eye few to the program with bottom-up reported project information

This view is showing the current resource consumption and financial status for each project. Because of space limitations in this paper Exhibit 2 shows a region of that view - the status of project "Tenant1". In column F the estimated hours per role are shown. Column G allows for additional planned efforts coming from change requests (CRs). Total hours in column E is the sum of the corresponding cells in F and G. Available hours in column D is the difference between column E and B. Actual hours in column B is the sum of hours automatically calculated from a tab containing timesheet raw data of all projects of the program. Monthly project revenue in columns I to M is automatically calculated based on the timesheet raw data.

The status of further projects of the program is listed on the same sheet in the same format using the same formulas and the same timesheet raw data.

	A	B	D	E	F	G	H	I	J	K	M
47	Project TM1	**Tenant1**						Project revenue	**92064.50**	Month	
48		Actual hrs.	Avail. hrs.	Total hrs. SOW	Base hrs.	CR hrs.	CV	Month		2012-03	0.00
49	Sum	1177.75	1408.25	2586	2496	90	210962	2011-09	2160.00		
50	Sr Consultant	334	498	832	800	32	74880			2012-04	0.00
51	Architect	153.25	238.75	392	384	8	37632	2011-10	41203.00		
52	Offshore Consultant	592	418	1010	960	50	65650			2012-05	0.00
53	Associate Consultant	41.5	54.5	96	96	0	7200	2011-11	33745.50		
54	Consultant	0	0	0	0	0	0			2012-06	0.00
55	Project Manager	57	199	256	256	0	25600	2011-12	14956.00		
56										2012-07	0.00
57								2012-01	0.00		
58										2012-08	0.00
59								2012-02	0.00		
60										2012-09	0.00
61											

Exhibit 2

Timesheet raw data is shown in Exhibit 3 whereas only the Name, Date, Project and Hours need to be entered. All other information is calculated with formulas and used for the project status view. This data is the base for all reports in this view.

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	A	B	C	D	E	F	G	H	I	J
1	Name	Date	Project	Hours	Month	BillAmt	Hrl Rate	Role	Hidden_Project+Role	Hidden_Project_Month
2	Offshore Consultant1	10/3/2011	Tenant1	4	2011-10	260.00	65.00	Offshore Consultant	Tenant1Offshore Consultant	Tenant1-2011-10
3	Offshore Consultant1	10/4/2011	Tenant1	4	2011-10	260.00	65.00	Offshore Consultant	Tenant1Offshore Consultant	Tenant1-2011-10
4	Offshore Consultant1	10/5/2011	Tenant1	2	2011-10	130.00	65.00	Offshore Consultant	Tenant1Offshore Consultant	Tenant1-2011-10
5	Offshore Consultant1	10/7/2011	Tenant1	8	2011-10	520.00	65.00	Offshore Consultant	Tenant1Offshore Consultant	Tenant1-2011-10
6	Offshore Consultant1	10/10/2011	Tenant1	4	2011-10	260.00	65.00	Offshore Consultant	Tenant1Offshore Consultant	Tenant1-2011-10
7	Offshore Consultant1	10/11/2011	Tenant1	8	2011-10	520.00	65.00	Offshore Consultant	Tenant1Offshore Consultant	Tenant1-2011-10

Exhibit 3

The status of the program shown in Exhibit 4 is aggregated from all projects. Actual, available and total numbers are shown in hours as well as financial values.

	A	B	D	E	F	G	H	I	J	K	M
19			PROGRAM STATUS DATE:			12/16/2011					
20	PROGRAM WORK										
21		Actual hrs.	Avail. hrs.	Total hrs. SOW	Base hrs.	CR hrs.					
22	Sum	1231	11069	12300	12300	0					
23	Sr Consultant	598	2402	3000	3000	0					
24	Architect	425.5	2574.5	3000	3000	0					
25	Offshore Consulant	0	2000	2000	2000	0					
26	Associate Consultant	69	1431	1500	1500	0					
27	Consultant	0	800	800	800	0					
28	Project Manager	138.5	1861.5	2000	2000	0					
30											
31	PROGRAM FINANCIALS							Program Revenue	151873.00	Month	
32			Avail		Total SOW	Base	CR	Month		2012-03	0.00
33	Sum	Hrl. Rate	950807.00		1064500.00	1064500.00	0.00	2011-09	4464.00	2012-04	0.00
34	Sr Consultant	90.00	216180.00		270000.00	270000.00	0.00	2011-10	53385.00	2012-05	0.00
35	Architect	96.00	247152.00		288000.00	288000.00	0.00	2011-11	63762.00	2012-06	0.00
36	Offshore Consultant	65.00	130000.00		130000.00	130000.00	0.00	2011-12	30262.00	2012-07	0.00
37	Associate Consultant	75.00	107325.00		112500.00	112500.00	0.00	2012-01	0.00	2012-08	0.00
38	Consultant	80.00	64000.00		64000.00	64000.00	0.00	2012-02	0.00	2012-09	0.00
39	Project Manager	100.00	186150.00		200000.00	200000.00	0.00				
40											

Exhibit 4

- Bird's eye view on program level: Actual reported effort versus initially at program setup planned effort per month. For future months the project pipeline is updated and compared with the initial plan.

This view gives quite good status information of the program by using monthly accumulated work in days. The screen shot in Exhibit 5 shows the program status as of March 31, 2012.

The top of the spreadsheet is showing planned projects and the distribution of the effort during the duration of the program. The numbers in this view remain all time the same from report to report.

The bottom of the spreadsheet shows the current status. There is an overlaid transparent box between 08/11 and 03/12. The numbers within this range are the actual performed work per month and per project. Efforts with a date from 04/12 are showing the actual project pipeline. Please note that the pipeline in the screenshot is the same as during draft planning. In reality one can expect that the pipeline, the list of projects and the order of execution of the projects will change over time and will be different to the initial plan.

For the steering committee three key indicators are important:

- Draft / planned vs. actual *total days per each month*
- Draft / planned vs. actual *accumulated total days*
- Draft / planned vs. actual *average heads*

One goal of the program could be that the *accumulated days per month* between the *initial plan* and the *actuals* should be more or less the same. If there are less actual accumulated days consumed the steering committee might decide to start additional projects and vice versa.

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Draft Planning as of Sept 2011													Total
Software	Project	Stream	08/11	09/11	10/11	11/11	12/11	01/12	02/12	03/12	04/12	05/12	06/12	Days
CA Service Desk Manager based	SaaS Env	SaaS Environment	49		12									61
	SaaS Env	Interfaces	14	2	3	20	18	25	27	24				132
	SaaS Env	Reporting				17	18	12						47
	Tenant1	Incident Management	64	49	68	65	47	19	28	27	4			370
	Tenant2	Incident Mangement	27	29	34	19	10	7	8	7				140
	Tenant2	Problem Management			15	12	4	4	8					44
	Tenant2	Change Management				12		16	15	27	31	30	28	160
	Tenant3	Request Management		6	12	20	7	8	11	7	12	11	7	100
	Tenant3	Change Management		19	29	30	20	16	27	30	25	16	16	230
	Tenant3	CMDB		7	15	26	11	11	11	19	34	12	11	157
		Planned Total days	153	112	188	221	134	120	135	140	107	69	62	1441
		Planned Accumulated days	153	265	453	674	808	927	1062	1203	1309	1378	1441	
		Planned avg. heads	7.6	5.6	9.4	11.0	6.7	6.0	6.7	7.0	5.3	3.4	3.1	

Actuals until March 31, 2012 + Estimates stated in SOWs													Total
Software	Project	Stream	08/11	09/11	10/11	11/11	12/11	01/12	02/12	03/12	04/12	05/12	06/12	Days
		Actual avg. Heads	3.6	0.4	5.9	6.6	4.6	3.4	8.6	12.2	5.1	3.4	3.1	
		Actual Accumulated days	71	78	197	329	420	489	661	904	1007	1076	1138	
		Actual Total days	71	7	119	132	91	69	172	244	103	69	62	1138
CA Service Desk Manager based	SaaS Env	SaaS Environment		2	101	84	41	10	11					248
	SaaS Env	Interfaces			11	5	15	12	3	2				48
	SaaS Env	Reporting	47											47
	Tenant1	Incident Management	24		6	2	13							45
	Tenant2	Incident Mangement												
	Tenant2	Problem Management		5		34	22	35	51	45				192
	Tenant3	Request Management							13	24	31	30	28	126
	Tenant1	Problem Management							78	168	12	11	7	275
	Tenant3	Change Management				9		11	17	5	25	16	16	99
	Tenant3	CMDB									34	12	11	57

Exhibit 5

- Traffic Light status overview for each project

The traffic light report as shown in Exhibit 5 is commonly used to report the program status at the steering

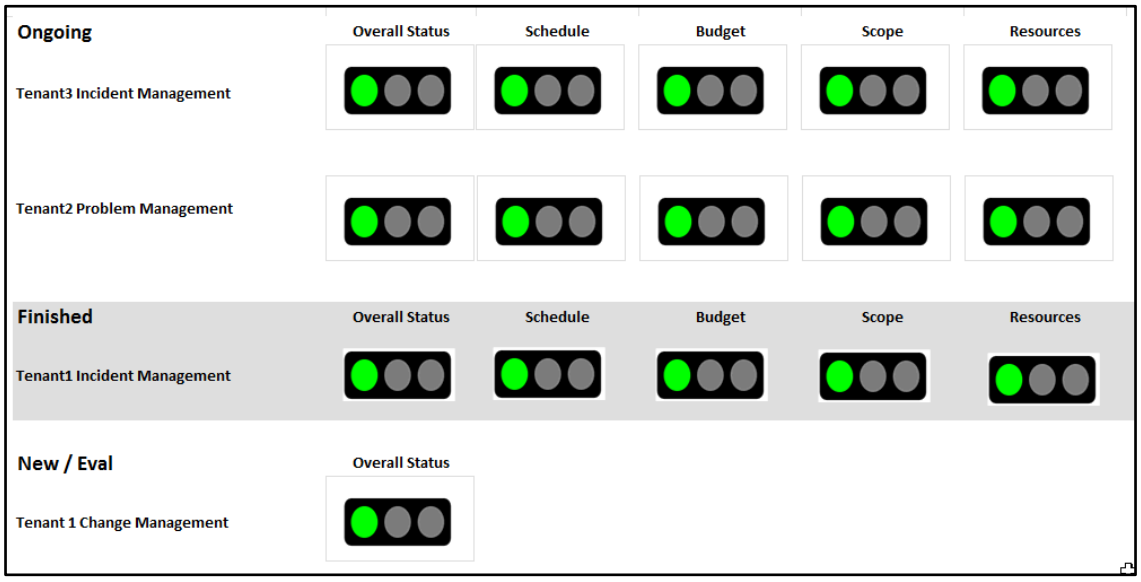

Exhibit 6

committee meetings. It shows all projects of the program categorized into ongoing, finished and new projects. To avoid discussions about the coloring of each status it is recommended to agree on common reporting categories. In our program we are using the reporting categories Schedule, Budget, Scope and Resources as shown in Exhibit 6.

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Dimension	Project - Green	Project - Amber	Project - Red
Schedule	Next Milestone and overall plans on track.	Issues achieving next Milestone and/or overall timeline.	Next milestone and/or overall timeline will not be met.
Budget	Currently within budget and forecast to remain within budget.	Currently not in budget and/or overall budget will be exceeded by <5%.	Currently not in budget and/or overall budget will be exceeded by >5%.
Scope	Scope and objectives are agreed with all stakeholders and can be met.	Different understanding within stakeholder and/or objectives are in danger.	Scope/Objectives cannot be met currently.
Resources	Staffing is appropriate	Issues with staffing.	Cannot be executed with current staffing.

Exhibit 7

Project Level Feedback Loops

- Estimated final project effort in man-days and estimated final project costs

To successfully manage projects it is important to first setup the project including the WBS, reviewed effort estimation, task sequencing, resource assignments and leveling.

During project execution it is important to set up a feedback loop to enable an estimate to complete.

In our project we define a project plan which corresponds to the estimated work effort in the statement of work. All our plans use several resource roles like Project Manager, Architect and Senior Consultant. We extract the estimated effort from the project plan into the first column "Estimated MD". Should there be any change request then we add these efforts to this number as an approved change request is in scope of the project.

At the weekly project status meetings project members assigned to a task are asked about their estimate on the percent work complete i.e. 0%, 50%, 100% complete. The project manager updates these values for all tasks in the project plan. In resource view the "Actual Work" and "Remaining Work" can be seen and copied into the estimate to complete Excel-Sheet (see Exhibit 8).

Project Plan			
Role	Estimated MD + CR1 + CR2	Actual Work planned	Remaining work planned
Project Manager	16	8.6	7.4
Architect	24.5	21.9	2.6
Senior Consultant	47	38.5	8.5
Consultant	0	0.0	0.0
Associate Consultant	6	6.0	0.0
Offshore Delivery	62	62.0	0.0
Sum	155.5	137.0	18.5

Exhibit 8

Also on a weekly basis all project members submit their timesheets with actual hours worked for each task. This effort value is entered into the column "Actual work performed". By subtracting this work effort from the estimated effort we're getting the available man-days which are available on that contract to be used (see Exhibit 9).

Timesheets / Actual work			
Role	Estimated MD + CR1 + CR2	Actual work performed	Available MD
Project Manager	16	7.0	9.0
Architect	24.5	18.2	6.3
Senior Consultant	47	37.3	9.8
Consultant	0	0.0	0.0
Associate Consultant	6	5.2	0.8
Offshore Delivery	62	71.0	-9.0
Sum	155.5	138.6	16.9

Exhibit 9

Finally an estimate to complete can be calculated using the previously collected data. Available man-days or an overrun will be shown per resource role. Adding hourly rates for each role also allows for the calculation of cost savings or cost overruns when the project will finish. In the example shown in Exhibit 10 it is possible to have an overrun with regard to the man-days whereas the financials show available buffer. The explanation for this is that in this example there was a shift of Architect work to the cheaper Offshore Delivery team.

Role	Available MD	Remaining work planned	Avail (+) MD / Overrun (-) MD	Hrl. Rates	Avail (+) Cost / Overrun (-) Cost
Project Manager	9.0	7.4	1.6	100.0	1280.00
Architect	6.3	2.6	3.7	96.0	2875.20
Senior Consultant	9.8	8.5	1.3	90.0	900.00
Consultant	0.0	0.0	0.0	80.0	0.00
Associate Consultant	0.8	0.0	0.8	75.0	487.50
Offshore Delivery	-9.0	0.0	-9.0	65.0	-4680.00
Sum	16.9	18.5	**-1.6**	**506**	**862.70**
			-1.0%		**0.9%**

Exhibit 10

It is important to re-evaluate these numbers and communicate the status per role to all team members on a weekly basis. As project manager you should give each team member feedback if the efforts she or he is generating is in line with the plan or not.
For the project manager any significant deviation in the estimate complete should be used to start further investigations how this deviation can be explained.

- Human, hardware and other shared resources rolling plan

Implementing a shared hardware and software environment requires a more detailed planning of human, hardware and software resources.

Exhibit 11 shows a weekly rolling plan for project “Tenant1” and project “Tenant2”. Both projects run during this week in parallel. The rolling plan shows that for “Tenant1” there is only design work planned which does not need any shared resource. For “Tenant 2” there is a move to QA environment planned where the DEV and QA environments are used.
The complete workbook contains of a set of tabs showing the rolling plan for whole program duration.

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			CALENDAR WEEK 48			
STREAM		**Mon 28/11/2011**	**Tue 29/11/2011**	**Wed 30/11/2011**	**Thu 01/12/2011**	**Fri 02/12/2011**
Dev Env.		**CA Tenant 2 Development**	**CA Tenant 2 Development**	**CA Tenant 2 Development**	**CA Tenant 2 Development**	**CA Tenant 2 Development**
QA Env.		**Free**	**CA Tenant2 Testing**	**CA Tenant2 Testing**	**CA Tenant2 Testing**	**CA Tenant2 Testing**
Prod Env.		**Production**	**Production**	**Production**	**Production**	**Production**
Project-TM1 Tenant1	CA Resource	**CA Architect1**	**CA Architect1 CA Archtect2**	**CA Architect1 CA Archtect2**	**CA Architect1 CA Archtect2**	**CA Architect1 CA Archtect2**
Project-TM1 Tenant1	**Task(s)**	Functional design for request and change managmeent	Requirement specification for request and change management	Requirement specification for request and change management	Requirement specification for request and change management	Requirement specification for request and change management
Project-TM1 Tenant1	Expected Output / Deliverable					Requirement Specification
Project-TM1 Tenant1	Customer SME					**Customer lead Architect1**
Project-TM2 Tenant2	CA Resource	**CA Sr Consultant1**	**CA Sr Consultant1**	**CA Sr Consultant1**	**CA Sr Consultant1 CA Offshore consultant1**	**CA Sr Consultant1**
Project-TM2 Tenant2	**Task(s)**					
Project-TM2 Tenant2	Expected Output / Deliverable	**On-Site Move to QA environment.**	**On-Site Move to QA environment.**	**Documentation updates and technical testing to prepare for handover of QA**	Documentation updates and technical testing to prepare for handover of QA Remote Work Move to QA environment.	Documentation updates and technical testing to prepare for handover of QA
Project-TM2 Tenant2	Customer SME					

Exhibit 11

Templates for the generation of new projects within the program

Scope statement templates

For the program it is important to define a simple formal process for the definition of new projects. A new project SOW should refer to the terms and conditions of the program. I.e. the SOW could exist only of the scope statement and it could be i.e. contracted via E-Mail to minimize administration effort.
For requesting new projects the customer should use a template to create formal requests defining the goals and requirements.

Project plan templates

In our program project plans are an important planning and feedback tool. It is important to pre-define phases like the creation of design documents, user acceptance testing and go-live.

Documentation structure for the program

For the program a document management system is used to store and manage all program related documents. It is a system which is accessible over the internet for all project members: Supplier, customer and vendors. For each folder special permissions were set up to restrict access between members of the program.

The directory structure as shown in the table in Exhibit 12 is used for the program on program level and the directory structure shown in Exhibit 13 is used on project level.

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First level	Second level	Description
00- Program Level		Documents at the program level.
	01- Program Charta	Primary document for program approval, program setup, program plan.
	02- Program Reporting	Bottom-up project/program status, traffic light information, estimate to complete on program level
	03- Program Communication	Documents for the program steering committee: Status presentations and meeting minutes.

Exhibit 12

First level	Second level	Description
01- Project Level		Documents on project level relevant to all projects.
	01- Resource Planning	Human, hardware and other shared resources rolling plan.
	02- Timesheets	Folder for all project time sheets relevant for project invoicing.
02- Project-TM1 Tenant1		Individual project folder for the time and material project for onboarding of tenant1
	01- Scope Management	Statement of work (SOW) based on template.
	02- Schedule Management	Project plan based on template.
	03- Change Management	Any approved change request (CR) documents.
	04- Communication Management	Meeting minutes.
	05- Products	Architectural Design Documents.
	06- Quality Management	Test plan, test scripts and test results.
	07- Risk Management	Risk identification and evaluation sheet.
	08- Resource Management	Resource requisitions, time sheets
03- Project-FP1 Tenant2	Sub folder structure as in TM1 Tenant1 project	
04- Project TM2 Tenant3	Sub folder structure as in TM1 Tenant1 project	
…		

Exhibit 13

Conclusion and Future Work

By using feedback loops dynamic complexity of our ITIL SaaS Implementation IT program could be successfully controlled in an efficient way. We plan to create general work templates which will include all needed formulas and macros and make these available to interested project and program managers.

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