Case Study 6

Synesthor Cloud Storage Migration Project

Synesthor, a major accounting firm, needs to move its central database storage. The business is expanding into an additional location in preparation for an upcoming merger with a firm that specializes in auditing credit unions. The firm will be using an off-site cloud system that the owners are hoping will be easily accessible to them in both their current and new business locations.

The new cloud system will need to allow for large database storage and provide a general network storage capability for existing and new locations. The testing team will perform stress tests on their cloud infrastructure to ensure the new system works to its full capacity and can handle large amounts of data transfers between locations at will.

At this time, the project scope will include only moving current databases. After the merger has been finalized, a separate project will be carried out to integrate the auditing firm's database into the same new system and set up the file sharing and storage features.

The project is scheduled to start the first Monday in July in order to avoid tax season. The owners want the project done by December 1 when they open the new location, and the merger will shortly follow on January 1. Labor costs are expected to be $124,800, based on the firm's standard overhead labor rate of $75/hr. for 1,664 budgeted hours.

The IT director, Michael Garcia, holds a weekly project status meeting with all the project team leads on Wednesday mornings. The main focus of the third weekly meeting is both on bringing in a new project manager, who is taking over for the original project manager, and on reassuring the CEO that a plan is in place to complete the project successfully.

In preparation for the weekly meeting, each of the team leads has submitted a status report to the IT director, showing all work completed and money spent by the end of day 12.

Teams	Completed Tasks
Sara Patel Cloud Computing Technical Lead	1.1 Costs - day 2 1.2 Accessibility to current location - day 4 1.3 Accessibility to new location - day 4 1.4 Current location connectivity - day 8 1.5 New location connectivity - day 9
Sophia Miller Data Migration Specialist	2.1 Max storage - day 5 2.2 Downsize files - day 7 2.3 Conversion - day 11
Daniel Johnson Senior Technical Lead	
Talia Phan QA Automation Engineer	
Omar Thomas Cloud Specialist	

Work Breakdown Structure (WBS)

The following work breakdown structure (WBS) shows the tasks required to complete the project along with the duration estimates and task predecessors. Tasks may be assigned to a single individual or multiple individuals.

Line #	WBS #	Task Name	Task Definition	Days	Predecessors
1	**1.0**	**Premigration planning**			
2	1.1	Costs	Determine cost of new off-site cloud system	2	
3	1.2	Accessibility to current location	Determine ease of access to new off-site cloud system from current location	2	1.1
4	1.3	Accessibility to new location	Determine ease of access to new off-site cloud system from new location	2	1.1
5	1.4	Current location connectivity	Verify ability to connect from the current location	4	1.2
6	1.5	New location connectivity	Verify ability to connect from the new location	4	1.3
7	**2.0**	**Storage**			
8	2.1	Max storage	Verify maximum storage capacity meets needs	4	
9	2.2	Downsize files	Downsize files to maximize use of storage	2	2.1
10	2.3	Conversion	Convert old file sources to modern templates	4	2.2
11	2.4	Security	Verify security criteria met	4	2.3
12	2.5	Hardware/software requirements	Identify and purchase any hardware or software needed to support the migration	4	2.4
13	**3.0**	**Off-site cloud system**			
14	3.1	Remove files	Inventory current files to determine which files are still needed	11	2.3
15	3.2	Outdated hardware	Retrieve files from outdated hardware	7	3.1
16	3.3	Outdated servers	Retrieve files from outdated servers	5	3.1
17	3.4	Documentation	Document the migration logic	11	3.2, 3.3

18	3.5	Code and implement	Code and implement the migration logic	35	2.5, 3.4
19	**4.0**	**Testing**			
20	4.1	Capacity	Verify storage capacity maximum	11	1.4, 1.5, 2.3
21	4.2	Current location	Verify connections to new off-site cloud system from the current location	11	4.1
22	4.3	New location	Verify connections to new off-site cloud system from the new location	11	4.1
23	4.4	Test environment	Test the migration with test data	11	4.2, 4.3
24	4.5	Bugs	Document and retest bugs as they are resolved	45	4.4
25	**5.0**	**Migration**			
26	5.1	Migrate data	Migrate production data	1	3.5, 4.5
27	5.2	Verification	Verify the migration of production data	1	5.1
28	5.3	Backup	Back up all production data	1	5.2
29	5.4	Decommission	Decommission the legacy environment	1	5.3
30	5.5	Monitoring	Monitor the migration for two weeks postmigration	14	5.4

Status Reports

Sara Patel

	Budget		% Complete	Expenditures	
	Hours	Dollars		Hours	Dollars
Premigration planning	**112**	**$8,400.00**	**100%**	**122**	**$9,150.00**
Costs	16	$1,200.00	100%	18	$1,350.00
Accessibility to current location	16	$1,200.00	100%	17	$1,275.00
Accessibility to new location	16	$1,200.00	100%	20	$1,500.00
Current location connectivity	32	$2,400.00	100%	29	$2,175.00
New location connectivity	32	$2,400.00	100%	38	$2,850.00

Notes:
The good news is that we did finish last week. The new building sure had some things we were not expecting, which we talked about at the last status report meeting. Replacing those cables in the older part of the building made all the difference. I still think the power lines will need to be rerouted, but we have time to have the facilities team check it out. They are supposed to be on-site for the construction of the conference room in September, so we can have them look at it then. For now, the shielded cables have the connections running at top speed.

Sophia Miller

	Budget		% Complete	Expenditures	
	Hours	Dollars		Hours	Dollars
Storage	**144**	**$10,800.00**	**58%**	**99**	**$7,425.00**
Max storage	32	$2,400.00	100%	40	$3,000.00
Downsize files	16	$1,200.00	100%	17	$1,275.00
Conversion	32	$2,400.00	100%	36	$2,700.00
Security	32	$2,400.00	12%	6	$450.00
Hardware/software requirements	32	$2,400.00	0%	0	-

Notes:
Having those interns come help was a great idea. I talked with one of them about the possibility of full-time employment after graduation. I still do not think we will need any additional equipment as the networking team says we should be able to move everything over the internet. The VPN server was recently upgraded to use two-factor authentication for end-user machines, and everyone has been able to get that up and running. We even made sure it worked for the small number of employees without smartphones, which was a concern that Michael had at our last meeting. As soon as we enable it on the servers, we should be in compliance with all policies.

Daniel Johnson

	Budget		% Complete	Expenditures	
	Hours	Dollars		Hours	Dollars
Off-site cloud system	**552**	**$41,400.00**	**3%**	**16**	**$1,200.00**
Remove files	88	$6,600.00	19%	16	$1,200.00
Outdated hardware	56	$4,200.00	0%	0	-
Outdated servers	40	$3,000.00	0%	0	-
Documentation	88	$6,600.00	0%	0	-
Code and implement	280	$21,000.00	0%	0	-

Notes:
Things seem to be going well on our work so far. There are no complaints yet anyway. We have found a few places where it appears that there are several copies of the same files. The dates seem to match up with the incident a couple years ago when we were having trouble with the old backup system. We still use that as an example in our new hire training of what not to do. Am I right? We should know more next week if they are all truly duplicates or if there is something else going on.

Talia Phan

	Budget		% Complete	Expenditures	
	Hours	Dollars		Hours	Dollars
Testing	**712**	**$53,400.00**	**5%**	**32**	**$2,400.00**
Capacity	88	$6,600.00	37%	32	$2,400.00
Current location	88	$6,600.00	0%	0	-
New location	88	$6,600.00	0%	0	-
Test environment	88	$6,600.00	0%	0	-
Bugs	360	$27,000.00	0%	0	-

Notes:
The QA automation engineers were delayed because they were waiting on the file conversions to be completed, which is now done. We also need access to the new offsite cloud system. At this point, QA automation engineers have not been added as authorized users. If this is not fixed, we will be unable to migrate data for testing. We have about a month before we need to be ready for that, but I would rather we are prepared sooner rather than later.

Omar Thomas

	Budget		% Complete	Expenditures	
	Hours	Dollars		Hours	Dollars
Migration	**144**	**$10,800.00**	**0%**	**0**	**-**
Migrate Data	8	$600.00	0%	0	-
Verification	8	$600.00	0%	0	-
Backup	8	$600.00	0%	0	-
Decommission	8	$600.00	0%	0	-
Monitoring	112	$8,400.00	0%	0	-

Notes:
Our team has been shadowing the other teams as they are doing their work so that we are as familiar as possible with everything that needs to happen. Because we have several junior-level team members, we have been able to charge those shadowing hours to the company's professional development budget instead of to the project. We are looking forward to contributing our part. I did have a question about the system monitoring after we go live since it appears some of that will be over Thanksgiving. Do we need to have a team member in the office on days the company is closed? The first week of October is when we will be planning out schedules for the holiday season, so we will need to know by then.