ITSU3008 IT

PROJECT 1

UNIT OVERVIEW

This unit is designed to give final year students the opportunity to apply the skills which they have learnt from the Project Management and Managing IT Projects units. Students will work in a group to

produce individual quality outputs and prepare a report comprising the project planning for the proposed project that they intend to undertake for a relevant simulated real-world project in the Project 2 unit.

WEEK 1

INTRODUCTION

Welcome

- Lecturer Introduction
- Students Introduction
- Congratulations – You are in the final year of Bachelor of Information Technology & Systems
- This unit paves the way for a successful career in IT industry

Unit Objectives

- Prepare you to contribute effectively towards the implementation of an IT project when you complete your graduation
- Apply project management and planning skills
- Apply the technical skills and knowledge you have learnt so far
- Explore and research industry standards, guidelines, design principles and solution framework

WOW Factors (Ways of Working)

- Individual Contribution
- Collaboration and Teamwork
- Research to enhance your skills
- Participation in other lectures if you want to enhance your knowledge
- Send out the project status report every Sunday evening using the template provided in Moodle – (Refer to Annexure for Project Status Report Template)

Business Case

- ZAYIN is a well-established banking organization in Asian countries and is setting up its Australian entity as a banking and trading organization for individuals and commercial business entities.

- ZAYIN has plans of setting up at the least 10 branches each in all the important cities across Australia and at the least 15 branches in the suburbs per state. ZAYIN has secured all the prime locations and only some of the

locations have existing network and infrastructure with outdated LAN facilities.

Business Case (Cont'd)

- ZAYIN's working model incorporates trading services offered via cloud services, which are part of the business organization in Asian countries. ZAYIN's banking services will be localized and will operate as per Australian regulations. To this effect, the head quarters of ZAYIN need to have 200 systems with WAN/LAN facilities with a total of with at the least 100 computers connected to private cloud services hosted by ZAYIN in Hong Kong.

High Level Requirements

- The main objective of the network setup will be to offer secured data transfer and data storage facilities for ZAYIN banking customers.
- The banking facilities will be fully operational and offer ATM, telephone and Internet banking services; networking

facilities should support cost-effective online transactions ensuring world-class customer service.

- Special counter services should be available for customers availing both banking and trading services, with the ability to check their trading account information via Internet banking and Phone banking.

High Level Requirements (cont'd)

- With trading services being accessed worldwide, the expected system and network availability is 99.99%. Vendor should explore the market and recommend appropriate network management tools to ensure great coverage, system availability and traffic monitoring.
- ZAYIN's headquarters is in Hongkong and the chief architect's office and his team resides there. The central office team team has indicated preference for the usage of site VPNs interconnected via WAN.

- Network redundancy is a key requirement and a redundant WAN connectivity is preferred wherever Internet access is used to connect to ZAYIN's services by Senior Management Team as well as business customers.
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High Level Requirements (cont'd)

- ZAYIN Hongkong has switched to IP telephony facilities and would like to use the same cost-effective method in ZAYIN Australia.
- ZAYIN's standards and guidelines include the use of integrated blade solutions, (server modules) where server

administration and operational activities include failback, archive, backup and recovery procedures will be centralised. (Note: Recommend virtual server infrastructure where possible)

- ZAYIN's roadmap includes business expansion along with extending the network capability and branch facilities in the near future. Proposed network design should cater for this to be done with no disruptions to business operations.
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Requirement	Actvity	Duration	Due in
1. A. Design a network and infrastructure design for ZAYIN headquarters in Australia and a sample network and infrastructure design for a branch office. All routers and switches need to be clearly identified in the network and infrastructure design diagram. Describe the switches and routers used for setting up ZAYIN headquarters for success B. Submit the project management plan and project plan	Draft	3 weeks	3rd week
	Review and update	2 weeks	5th week
	Finalise and submit	1 week	6th week
2. For the branches where old infrastructure is available, recommend suitable solution to upgrade the existing LAN facilities and plan for upgrading to IP Telephony facilities.	Draft	3 weeks	4th week
	Review and update	2 weeks	6th week
	Finalise and submit	1 week	7th week
3. Recommend appropriate network management tools and the standard operating procedures	Draft	2 weeks	7th week
	Review and update	1 week	9th week
	Finalise and submit	1 week	10th week
4. Write a detailed Production Infrastructure and Network design document as per the attached template.	Draft	3 weeks	8th week
	Review and update	2 weeks	11th week

Scope of Work (cont'd)

- Project Management & Planning Documents
  - Project Management Plan
  - Project Plan
- Solution Documents
  - Network and Infrastructure design including
- Security design
- Infrastructure design

– Architectural Design Principles

– Recommendation on standards, guidelines, and standard operating procedures

Project Management Plan

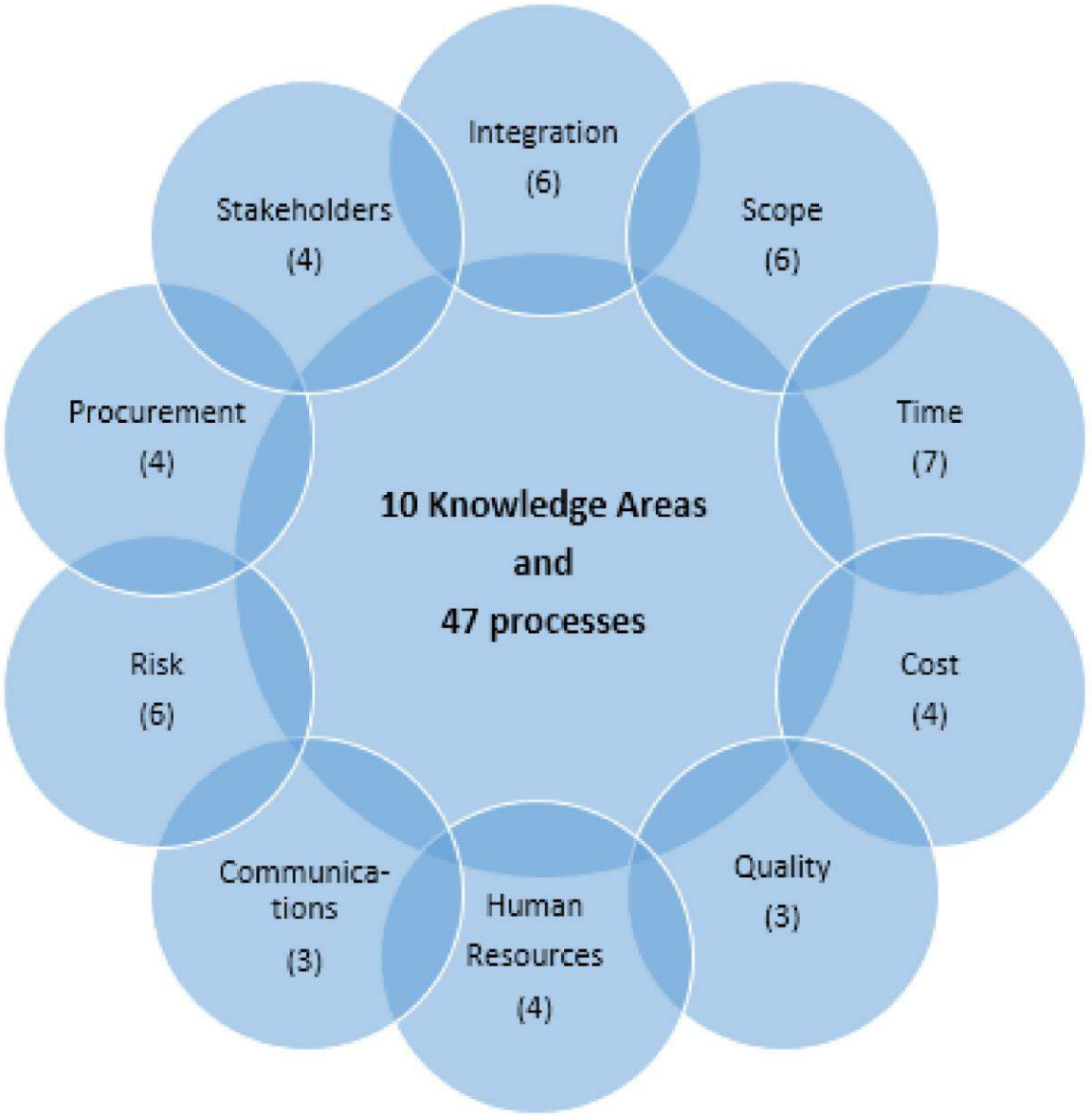
- A sample template is provided for students via Moodle

Document

Project Management Plan (cont'd)

- 5 phases of the project:
  - Initiation
  - Planning
  - Execution
  - Monitoring & Controlling
  - Closing

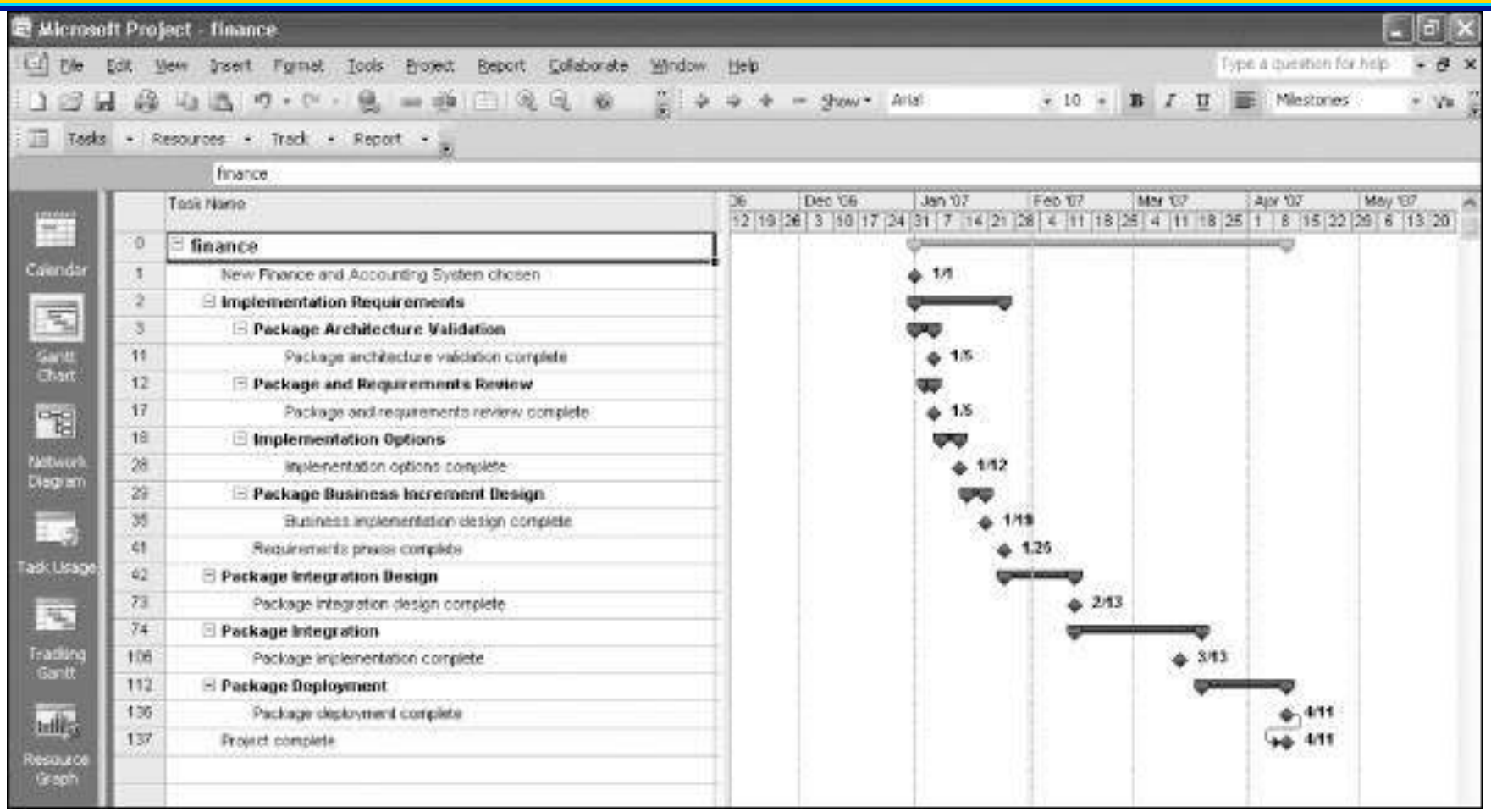
Project I


Integration
(6)
Scope
(6)
Time
(7)
Cost
(4)
Quality
(3)
Human
Resources
(4)
Communica-
tions
(3)
Risk
(6)
Procurement
(4)
Stakeholders
(4)
10 Knowledge Areas
and
47 processes

Project Plan

- Project Plan should be created using MS Project
  - should reflect the activities listed under Work Breakdown Structure within the project management plan
  - a Gantt chart should be presented
  - Critical path of the project should be identified
  - Sample resource table with recommended roles should be presented

Project Plan (cont’d)


Microsoft Project - finance
File Edit View Insert Format Tools Project Report Collaborate Window Help
Tasks Resources Track Report
finance
Calendar
Gantt Chart
Network Diagram
Task Usage
Tracking Gantt
Resource Graph
Task Name
0 finance
1 New Finance and Accounting System chosen
2 Implementation Requirements
3 Package Architecture Validation
11 Package architecture validation complete
12 Package and Requirements Review
17 Package and requirements review complete
18 Implementation Options
28 Implementation options complete
29 Package Business Increment Design
35 Business implementation design complete
41 Requirements phase complete
42 Package Integration Design
73 Package integration design complete
74 Package Integration
106 Package implementation complete
112 Package Deployment
136 Package deployment complete
137 Project complete
Dec '06
Jan '07
Feb '07
Mar '07
Apr '07
May '07
1/1
1/5
1/5
1/12
1/19
1/26
2/13
3/13
4/11
4/11

Solution Design – components

- A switch creates a network by connecting multiple devices including computers, printers. A switch serves as a controller, enabling networked devices to talk to each other efficiently. Through information sharing and resource allocation, switches save businesses money and increase employee productivity.

Unmanaged Switches vs Managed Switches

- An unmanaged switch is used to connect home networking equipments whereas managed switches are configurable offering greater flexibility and capacity. Managed switches can be monitored and managed remotely or locally, making it a great asset for business solutions.

Solution Design – components (cont'd)

- Switches create a network. Routers connect networks. A router links computers to the Internet, so users can share the connection. A router acts as a dispatcher, choosing the best path for information to travel so it's received quickly.
- LAN – A **local area network** (**LAN**) is a network that connects computers and other devices in a relatively small area, typically a single building or a group of buildings.
- WAN –A **wide area network** (**WAN**) is a telecommunications network or computer network that extends over a large geographical distance. Wide area networks are often established with leased telecommunication circuits.

Solution Design – components (cont'd)

- VLAN –The purpose of a virtual local area network (VLAN) is to unite network nodes logically into the same broadcast domain regardless of their physical attachment to the network. VLANs provide a way to limit broadcast traffic in a switched network. This creates a boundary and, in essence, creates multiple, isolated LANs on one switch. A router is required if data is to be passed from one VLAN to another.

Telephony - The transmission of data through equipment in a telecommunications environment is known as telephony. Telephony includes transmission of voice, fax, or other data.

Solution Design – components (cont'd)

Telecom/PBX

- The telecommunications (telecom) system and Private Branch Exchange (PBX) are a vital part of an organization's infrastructure. Besides the standard block, there are also PBX servers, where the PBX board plugs into the server and is configured through software on the computer. Many companies have moved to Voice over IP (VoIP) to integrate computer telephony, videoconferencing, and document sharing.

Voice over Internet Protocol

- VoIP uses the Internet to transmit voice data. A VoIP system might be composed of many different components, including

Solution Design – components (cont'd)

VoIP phones, desktop systems, PBX servers, and gateways. VoIP PBX servers are susceptible to the same type of exploits as other network servers.

- Session Initiation Protocol (SIP) is commonly used in instant messaging, but it can also be used as an alternative for VoIP. Using SIP can leave VoIP networks open to unauthorized transport of data. Man-in-the-middle attacks between the SIP phone and SIP proxy allow the audio to be manipulated, causing dropped, rerouted, or playback calls. Therefore, access can be gained in a lot of areas.

Implementing the following solutions can help mitigate the risks and vulnerabilities associated with VoIP:

Solution Design – components (cont'd)

- Encryption
- Authentication
- Data validation
- Nonrepudiation
- Modems are used via the phone line to dial in to a server or computer. They are gradually being replaced by high-speed cable and Digital Subscriber Line (DSL) solutions, which are faster than dial-up access. However, some companies still use modems for employees to dial into the network and work from home. The modems on network computers or servers are usually configured to take incoming calls.

Solution Design – components (cont'd)

Leaving modems open for incoming calls with little to no authentication for users dialing in can be a clear security vulnerability in the network.

Virtual Servers - a virtual server is a server at a centralised location that is shared by multiple site owners so that each owner can use and adminster it as though they had complete control of the server

- Benefits of Virtualisation
  - Centralised archiving, back-up, fail-over, recovery mechanisms

Solution Design – components (cont'd)

- Fail Over ensures business continuity by having parallel servers running to cater for requests; if one server fails or shuts down due to expected or unexpected reasons, router automatically sends over all the requests to the second server
- Online transactions will require high-availability, highcapacity servers with fail-over features installed

References

Project Management Plan
http://www.projectmanagementdocs.com/project-planningtemplates/project-management-plan.html#axzz4FOrtjB3N

References

References

Project Plan http://www.stakeholdermap.com/project-templates/ms-projecttemplates.html

References

Topology

- http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cucme/srnd/design/guide/cmesrnd/nstrct.pdf

WEEK 1

ANNEXURE

Project Status Report

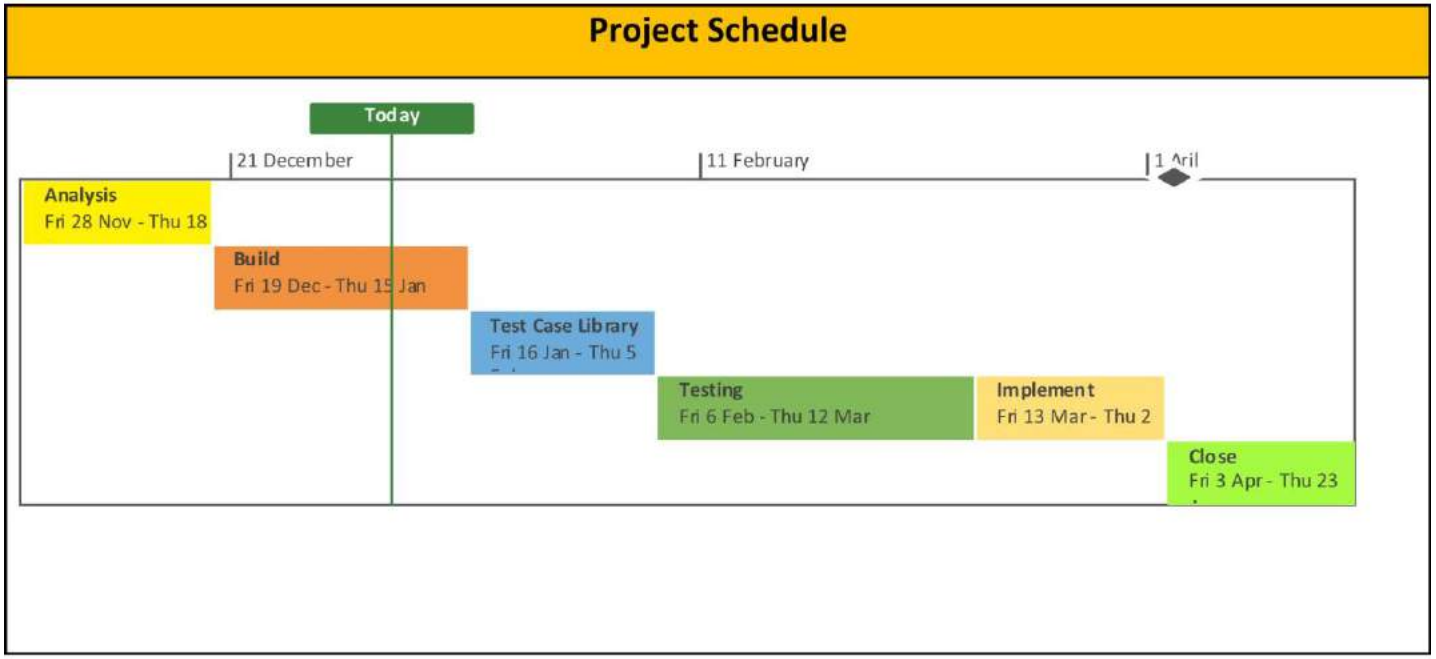
Project Status Report

Project Name		**Project Summary -**
Project Code		
Project Manager		
Status Date		

Project Key Parameters		Comments
Schedule	On-Track / Delayed / Off-track	The project is ____% complete.
Quality	On-Track / Delayed / Off-track	
Scope	On-Track / Delayed / Off-track	
Budget	On-Track / Delayed / Off-track	**Total** : **Spent** : **Remaining** :
Risks	On-Track / Delayed / Off-track	
Issues	On-Track / Delayed / Off-track	

Project Status Report (cont'd)

Sample



Project Status Report (cont'd)

Project Risks and Issues (Top 5)			
Risk / Issue	**Risk / Issue Description**	**Owner**	**Status**