

# Vision and Scope Document

for

**Team A Network Design Solutions**

Version 1.0 approved

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**ITEC495-V2WW Information Technology Capstone**

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## Revision History

Name	Date	Reason For Changes	Version
Kelly Stelzriede	09/01/99	Content added	1.1
Joe Dykes	9/30/09	Added WAP model	
Kelly Stelzriede	10/5/09	Content added	
Kelly Stelzriede	10/06/09	Content added	
Joe Dykes	10/06/09	Networking specs added	
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Pamela Kelly	10/11/09	Annotated Bibliography	

## Business Requirements

Kinsley & Associates, LLC, an upstart architectural firm based in Destin Florida, is currently constructing new office space and requires a computer network infrastructure to be designed, installed, implemented, tested, and maintained. This project involves selecting, purchasing, and installing the wiring and networking equipment. To build and maintain a competitive edge in an industry in which technology is rapidly changing, and is highly competitive, Kinsley & Associates requires top of the line equipment, skilled installation and management, thorough and detailed documentation, appropriate instruction for personnel, and a fail-safe disaster recovery program.

### Background

Kinsley & Associates, LLC was chartered in September of 2009 and is currently in the process of hiring architects, draftsmen, a bookkeeper, and a receptionist. The core partnership, consisting of Matt Kinsley, Walter Bass, and Felicia Rodriguez, has begun the process of acquiring new business for the upstart firm and hopes to be fully operational by March 1, 2010.

### Business Opportunity

To bring the information systems infrastructure to a level of full functionality all network resources must be completely installed and tested and be fully functional. Once this has been accomplished, staff has been trained and documentation has been provided, Kinsley & Associates will require a maintenance program that will continue to provide the organization with a stable and productive network infrastructure. This program must also allow for growth of the company and technology advancement.

### Business Objectives and Success Criteria

A successful network design and implementation will provide Kinsley & Associates with a network solution that enhances the productivity of the organization, provides a secure operating environment, prepares for disaster prevention and recovery, and provides staff members with tools and skills that will facilitate their organizational function. The continued operation of the network infrastructure, and the provision for growth and upgrade will allow Kinsley & Associates to focus on building custom homes rather than technology issues. Measured success of the implementation and maintenance of the full system will be gaged by the timeliness of the installation, of the reliability, security and speed of the network, the ease of use of the equipment and software, and the effectiveness of the maintenance and



upgrade program. Upon completion of the project, prior to the release of the maintenance program, all parties will be in agreement that the network has provided for the requirements of the organization.

## Customer or Market Needs

Kinsley & Associates require a network to be built from the bottom up that will facilitate the productivity and output of their firm.

**TABLE 1.1**

Network Hardware 4000 ft Plenum cat6e cabling

1 ct Punch down block

1 ct Cisco ASA Firewall

1 ct Cisco 2800 router

2 ct Cisco 2960 switches

2 ct. Cisco c1140 wireless access points

2 Cisco HWIC-1GE-SFP High speed WAN Interface cards

5 Cisco GLC-LH-SM= Single mode fiber SFP connectors

2 ~3ft. LC fiber jumpers

Server/Backup 1 ct Quad Core OS X Server

1 ct Sun 7110 Server (storage with Radius auth)

Work Stations 13 ct 24 inch iMac; 3.06 GHz Core 2 Duo; 4 Gb ram memory; 1 Tb hard drive; 8x double-layer SuperDrive; built-in display NVIDIA GeForce GT graphics adapter; keyboard/mouse incl.  
2 ct 20 inch iMac; 2.66 GHz Core 2 Duo; 2 Gb ram memory; 320 Gb hard drive; 8x double-layer SuperDrive; built-in display; NVIDIA GeForce 9400m graphics adapter; keyboard/mouse incl.  
2 ct Dell Vostro 220 Mini Tower; Intel Celeron 450 2.20 GHz; 1 Tb hard drive; 16X DVD-RW; keyboard/mouse incl.  
2 ct Dell 17 inch Widescreen E1709 Analog Flat Panel Display



Printers	2 ct HP LaserJet P2055dn printer
	1 ct HP Color LaserJet CP 2025dn printer
	2 ct HP PhotoSmart C8180 All-in-one scanner copier printer
	2 ct HP DesignJet 110plus r wide platform printer
Scanner	Ricoh IS330DC document scanner
Installation and Configuration	Network installation/ wireless configuration
	Server installation and configuration
	Workstation installation and configuration
	Peripheral device installation and configuration
	Software installation and configuration
Documentation and Network SOP	Workstation
	Use policies
	Security
Maintenance and Upgrade	Server
	Network hardware
	Security
	Disaster prevention and recovery
Software	Vectorworks 2010 by Nemetschek Architectural Design Software
	Microsoft office Productivity Suite
	AVG Anti-Virus Corporate



Intuit Quickbooks 2009 Premier  
**Business  
 Risks**  
 Table 1.2

<b>Risk</b>	<b>Severity</b>	<b>Mitigation</b>
Project completed over budget	Medium	<ul style="list-style-type: none"> <li>· Monitor and track all costs weekly as the project progresses.</li> <li>· Pay close attention to potential trouble areas like equipment costs and labor costs.</li> </ul>
Project completed over deadline	High	<ul style="list-style-type: none"> <li>· Utilize change orders signed by customer and vendor.</li> <li>· Examine potential areas of delay at each stage of the project and develop a plan to alleviate slowdowns</li> <li>· Utilize change orders signed by customer and vendor</li> </ul>
Skill set unavailable within TAND to program Cisco routers for appropriate security protection	High	<ul style="list-style-type: none"> <li>· Obtain outside consultant skilled in Cisco router programming</li> </ul>
Skill set unavailable within TAND to train users in Vectorworks, the architectural design software the company has chosen	High	<ul style="list-style-type: none"> <li>· Secure alternate training programs through Nemetschek VectorWorks and establish a training program.</li> </ul>
Communication breaks down between client and vendor	Medium	<ul style="list-style-type: none"> <li>· Agree upon a communication venue</li> <li>· Agree upon frequency of communication</li> </ul>
Third party internet service provider will not complete setup of Internet service in allotted time frame	Medium	<ul style="list-style-type: none"> <li>· Maintain communication with ISP</li> <li>· Obtain alternate means of Internet connectivity in the event of a service breakdown or communication failure.</li> </ul>

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## Vision of the Solution

The vision the Principals of Kinsley & Associates have of the information systems infrastructure is of one that :

- facilitates productivity of the organization
- provides ease of use
- provide secure and fast Internet connectivity
- provides necessary resource management and security
- provides for disaster prevention and recovery
- provides employees with the training they will require to take full advantage of the system
- provides stable and reliable functionality
- provide for growth of the organization

## Vision Statement

Kinsley & Associates, LLC, and architectural firm, specializing in luxury home construction strives to become a leader within the industry. Team A Network Design (TAND) will demonstrate it's own superiority within the technology industry and provide them with means to achieve Kinsley & Associates' goal of leadership within the industry. Crucial to this goal is the development and implementation of a sturdy, reliable, functional information systems infrastructure. This solution will be provided, in full, by TAND.

## Major Features

This solution will incorporate all areas of network function including:

- network appliance hardware and software, and configuration
- server and backup hard ware, software, and configuration
- Reliable and redundant disaster prevention and recovery
- workstation hardware and software and configuration
- fast and secure Internet connectivity
- thorough training of all network and resource users
- complete documentation of the network infrastructure
- excellent service, support and maintenance.

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## Assumptions and Dependencies



TAND makes the following assumptions:

- The primary operating system platform required by Kinsley & Associates the Mac OS X 10.6 Snow Leopard. This includes both server and workstation systems.
- Hardware required by the staff of Kinsley & Associates must include:
  - Network appliance hardware
  - 1 Server
  - 1 Storage Server
  - 15 Apple Macintosh workstations with capabilities to run graphic rendering and architectural design software.
  - 2 Microsoft Windows based workstations
  - 3 laser printers
  - 2 photo quality ink jet printers
  - 2 wide platform printers
  - 1 wide platform scanner
- Productivity Software required by Kinsley & Associates will include:
  - Vectorworks 2010 by Nemetschek
  - Microsoft Office Productivity Suite
  - Intuit Quickbooks 2009 Premier
  - AVG Anti-Virus Protection
- Kinsley & Associates will require all phases of network and hardware installation to be performed by TAND including, but not limited to, wiring of offices under construction.
- Kinsley & Associates has contracted with BellSouth Internet Services to implement leased line connectivity through fiber optic cabling.
- The construction of the new facility will be ready for wiring by October 25, 2010.
- The construction of the new facility will be completed by November 30, 2010.
- The installation and implementation of the entire information systems infrastructure must be completed by December 31, 2010.

Success of the project is dependent upon

- TAND will provide all hardware and software to Kinsley & Associates
- Working within the operating budget
- Working within the allotted timetables

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## **Scope and Limitations**



The scope of the initial project will encompass a solution that will provide Kinsley & Associates with a functioning information systems infrastructure. This infrastructure will be built from the ground up and will provide all hardware, software, and configuration required to allow Kinsley & Associates to begin immediate business on March 1, 2010.

## **Scope of Initial Release**

The network infrastructure installation will include the provision, installation, and configuration of all wiring, network appliances, one server, one backup server, fifteen Macintosh workstations possessing the Core 2 Duo processor, two Microsoft Windows-based workstations running at 2 GHz or better, three laser printers, two wide platform printers, two photo-quality inkjet printers, and one wide platform scanner.

The server will be configured to provide Kinsley & Associates with secure data sharing and user and device management. The backup server will provide redundant backup of all organizational data.

The Macintosh workstations will be configured to support Nemestcheck VectorWorks 10 and Microsoft Office Productivity Suite. The Microsoft Windows-based work stations will be configured to support Intuit Quickbooks 2009 Premier and Microsoft Office productivity Suite.

All printers will be operational from all workstations and the wide-platform scanner will be operational from the Macintosh workstations only. Interoffice connectivity and data sharing will be configured at each work station and full documentation and thorough training will be provided.

## **Scope of Subsequent Releases**

Once the information systems infrastructure is in place and fully operational, TAND will institute a maintenance, upgrade, and support program. This program will provide all levels of system support, disaster prevention and recovery, upgrade, hardware and software repair and replacement. Labor will be billed at:

- \$140.00/hour onsite, regular business hours
- \$175.00/hour onsite, off business hours
- \$250.00 /hour onsite weekend & holiday
- \$105.00/hour remote access support all hours
- \$170.00/hour remote access support holidays
- \$75.00/hour remote access maintenance and upgrade per schedule

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## **Limitations and Exclusions**



The scope of this project does not include any hardware or software installation or configuration not included explicitly in the project bid.

The scope of this project does not include the provision of Internet bandwidth by TAND.

The scope of this project does not include any fault or error created by use outside of the system by Kinsley & Associates prior to it being declared fully operational by TAND project lead.

The scope of this project does not include any damage to the network infrastructure caused by forces of nature and natural disaster prior to the information systems infrastructure being declared fully operational and agreed upon by TAND and Kinsley & Associates.

Change orders will be required by TAND to continue work if these phases of the overall organizational development are not completed on the existing time table and are beyond the control of TAND:

- Construction of the building being completed
- Furniture being delivered and installed
- Internet Access being installed to the building
- Employee hiring and placement within Kinsley & Associates

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## **Business Context**

The partners of Kinsley & Associates, being the primary stakeholders in the project, along with the organization's architects, structural engineer, draftsmen, administrative support persons, and bookkeepers, will require that the network infrastructure being provided and implemented by TAND facilitate business function and productivity. Architectural design has become an increasingly competitive field since the speed and accuracy of product output has been enhanced by technology. Most architects do not draw by hand anymore. They require solid, powerful design tools to implement their ideas. The success of the organization hinges on the power and reliability of the network and the network resources available to it.

It is critical to the success of the business that the network resources are fully operational and that the users are able to consistently and effectively produce output from the network resources.

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## **Stakeholder Profiles**



**Table 3.1**

<b>Stakeholder</b>	<b>Major Value</b>	<b>Attitudes</b>	<b>Major Interests</b>
Partners	Increased organizational quality and productivity	See increased revenue and market competitiveness	A more solid, current, reliable system than competitors that will provide users with faultless operation. Down-time= revenue loss and loss of competitive edge. They will require that the data be secure and that the network infrastructure be protected against theft and attack. They will require that they can access data and reports through the network from the bookkeepers, who will be using Windows-based workstations.
Structural Engineer and Architects	Increased productivity and fewer faults and errors in output. Reduced rework.	Expect faultless performance 100% of the time but do not require the system for 100% of their productivity.	Speed of individual workstation, speed and reliability of data transfer. Data security.
Draftsmen	Increased productivity and fewer faults and errors in output. Reduced rework.	Will be required by architects to produce output quickly and without fault. If any part of the system is down and this end cannot be reached productivity becomes 0%	Solid, reliable, an secure systems operations.
Bookkeepers	Increased productivity and increased output. Fewer faults and errors in output. Reduced rework.	Will require their individual systems to function without fault. Productivity relies 75% upon the system	Solid, reliable, an secure systems operations.
Administrative support.	Increased productivity and increased output. Fewer faults and errors in output. Reduced rework.	Will require their individual systems function without fault. Productivity relies 50% upon the system.	Solid, reliable, an secure systems operations.
TAND	Provide and	Confident this is	The project team abides by



implement an information systems infrastructure that will provide for increased and consistent organizational productivity . To provide a secure system that provides for disaster recovery and prevention possible. budget and time constraints and works for effective risk mitigation.

## Project Priorities

Table 3.2

Dimension	Driver	Constraint	Degree of Freedom
Schedule			
Phase 1	Development and agreement of implementation schedule by 11/01/2009	Deadline gives very little room for movement within the allotted time frame	90% agreement within project team
Phase 2	Installation of network wiring, appliances, configuration of routers and firewalls	Must work within construction schedule	Network hardware must be 100% functional
Phase 3	1/15/2010 Installation of all workstations and peripheral devices and configuration, installation of software 1/25/2010	Must be completed after delivery and installation of office furniture	100% functional
Phase 4	Configuration of servers and backup 1/31/2010	Must be completed after installation of Internet access	100% functional
Phase 5	Testing by Project team and client by 2/15/2010		90% by both parties
Phase 6	Training of all employees and	Must be completed	90% by both



	users of the network	after operations commence an employees are hired and placed	parties
Staff			
In-House	Existing tech staff of TAND	3 system engineers, 2 technicians	Will complete 95% of project
Outsourced	Outside Cisco consultant	Tom Macy, Macy Systems Consulting	Will complete 5% (Phase 1)
Cost			
	\$60,000 Hardware	Change order signed by major stakeholders	15% overrun of budget approved
	\$40,000 Labor	required to operate outside of budget	without change order requirements

## Operating Environment

TAND is within geographic proximity of the offices being constructed by Kinsley and Associates. All project members will be on site, as needed. All installation and configuration will be performed on site.

The network infrastructure will be built using Cisco equipment, devices, and appliances. Cisco is a solid, reliable, industry standard and will provide for the degree of fault tolerance and security required by Kinsley & Associates. The work stations and server will be Apple Macintosh and will all operate with Mac OSX as the primary operating environment. The bookkeeping systems will be Microsoft Windows XP Professional systems and will communicate seamlessly with both the server and the peripheral devices. All software, outside of the business office, will be Macintosh compatible software.

*(Cont. next page...)*

## Human Resources

The Human Resources aspect of the project will detail the Team Charter, the staff skill set and attributes, and the separation of duties and responsibilities among the staff. It will also define the communication strategies that will be utilized by the team to facilitate seamless advancement through each phase of the project.



## Team Charter

Team A Network Designs assembled for a meeting on 9/28/2009 to discuss the depth of the project, were able to break it down and define the project specifically, and then chose team roles. It was agreed that Pam Kelly would act as Team Lead and all communication with the Professor would be through her. Parameters for submission of each phase of the project were defined and a schedule of delivery was defined as well. Pam Kelly would provide Professor Smith with a weekly status report and copy each team member.

The project the team developed, based on mutual skills, interests, and experience, was that of Team A Network Designs (TAND), a network design and security consulting firm. TAND would design and implement a 20+ node network with cross-platform functionality and disaster prevention and recovery.

Via Email communication and text message communication and Instant Message communication, the details of the project were agreed upon and each member contributed his or her knowledge and experience.

All issues and grievances are to be brought to Pam Kelly immediately and will be dealt with in a professional and effective manner. Each team member has agreed to contribute 100% effort and notify the team promptly if an assignment is falling behind schedule.

## Technical Skills and Attributes

Table 4.1

Name	Skills	Attributes
Pamela Kelly	Project Management, training.	Well organized and focused, leadership skill and experience
Kelly Stelzriede	Technical writing, Network design and implementation, cross-platform integration, hardware installation and configuration, training.	Extroverted, detailed, pragmatic
Joe Dykes	Network design and implementation, network security, disaster prevention and recovery	Extremely detailed, laterally thinking
Joseph Grange	Network and hardware installation	Detailed, focused
Tish McFee	Network and hardware installation, training.	Detailed, focused

## Roles and Responsibilities

Table 4.2

Name	Role	Responsibilities
Pamela Kelly	Project Lead	Oversee project progress, communicate with



		Major stakeholders, provide documentation and training
Kelly Stelzriede	System Engineer	Oversee hardware installation, software installation, server configuration
Joe Dykes	System Engineer	Oversee network installation, device configuration, firewall configuration, Internet access,
Joseph Grange	Hardware and Network Technician	Perform network and hardware installation
Tish McFee	Hardware and Network Technician	Perform network and hardware installation
Tom Macy	Cisco CCDE	Perform all Cisco router and appliance configuration

## Communication Strategies

The team lead and engineers will meet face-to-face with Major Stakeholders during the initial phase of the project and will establish communication guidelines:

Team members will communicate via email on all major issues so that there is documentation for future reference. Team members will present the Project Lead with written documentation, via email, of any concerns or issues that are encountered. The Project Lead will report progress in a Progress report to Major Stakeholders, delivered via Email each week at the start of the week. Team engineers will be copied on this report. This report will include all problems, overruns, issues, and developments that occur during the course of the previous week.

A face-to-face meeting between Project Lead and Major Stakeholders will take place at the start of each phase to discuss progress and change requests.

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## Project Management

The Project Management Section will outline the schedule, the dependencies and the deliverables of the full project implementation. Pam Kelly, TAND Team Lead will handle all communication with Major Stakeholders, provide structure and guidance to the project as it progresses, and will provide documentation to the customer at the completion of the project. Kelly Stelzriede, Project Engineer will develop the schedule for the project, detail all aspects of the project, clearly define the scope and the vision of the project and will oversee the hardware and software installation of the project. Joe Dykes



will provide all networking and presentation documents, and will oversee the networking infrastructure implementation

## Deliverables

Upon completion of the project, Kinsley & Associates will receive:

- A fully installed, secure, and operational network infrastructure that works in tangent with third party provided Internet access.
- All server hardware and software installed and configured to appropriate specifications.
- All disaster prevention and recovery hardware and software installed and configured to appropriate specifications.
- All peripheral hardware and software installed and configured to appropriate specifications.
- Full documentation and set of standard operating procedures provided to Major Stakeholders of Kinsley & Associates.

The project will be considered a success and will be completed when the Major Stakeholders of Kinsley & Associates and TAND Project team lead agree within 90% that the contract has been fulfilled and the deliverables have been provided in full.

## Dependencies

Success of the project will depend on, in chronological order (*contribution beyond the provision of TAND in italics*)

- ☐☐.1 *Building construction reaching the wiring phase*
- ☐☐.2 Network installation and configuration
- ☐☐.3 *Building construction being completed*
- ☐☐.4 *Furniture being delivered and installed*
- ☐☐.5 Server, workstation, and peripheral device installation and configuration
- ☐☐.6 *Internet Access successfully installed at the building.*
- ☐☐.7 *Hiring and placement of all users of the network.*
- ☐☐.8 Training of all network users
- ☐☐.9 Full documentation provided

(Cont. next page....)

## Schedule



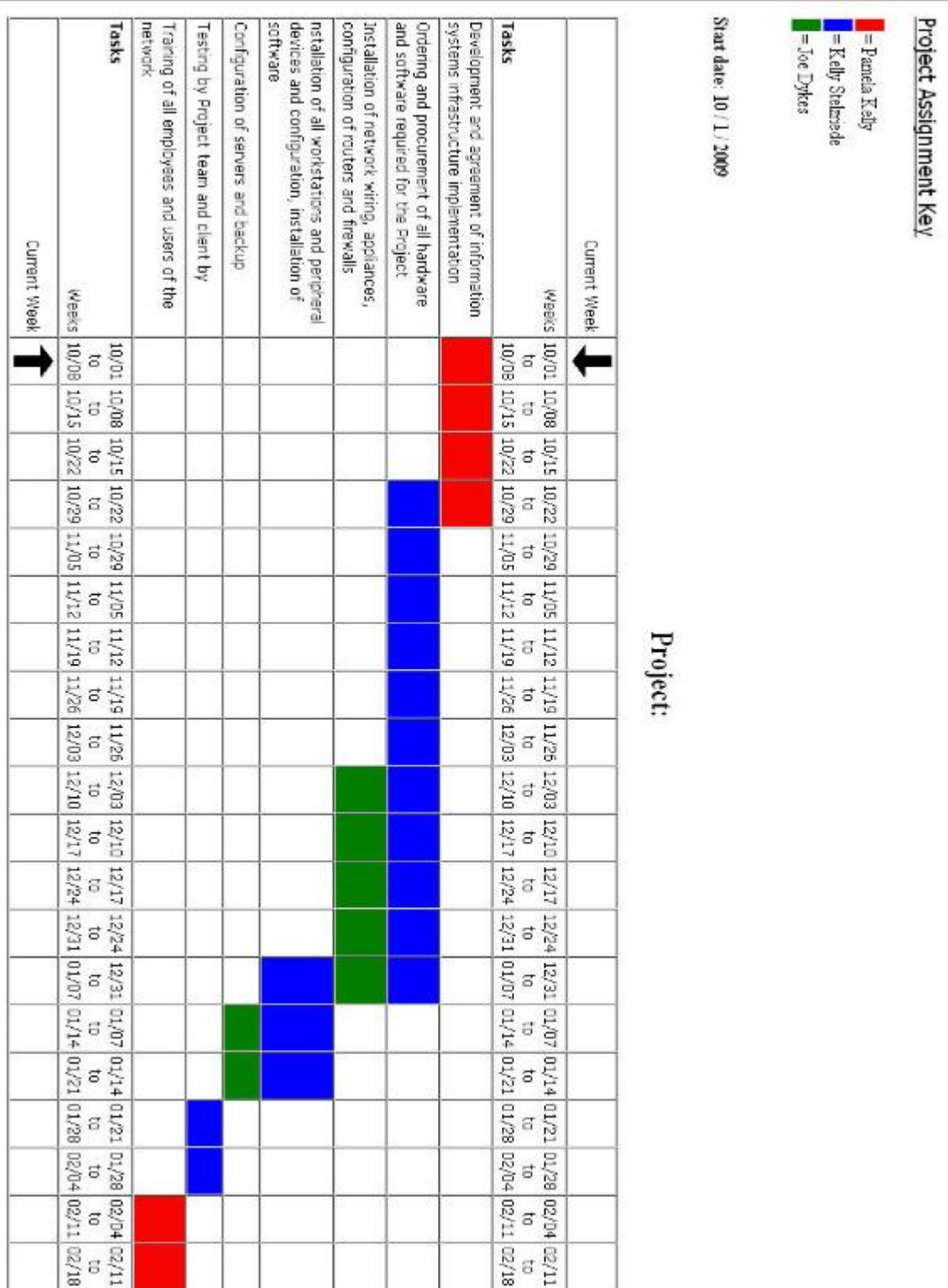


Table 5.1



## Educational/Program Outcomes

The vision of this project is to provide Kinsley & Associates with a robust, fault tolerant, secure, and user-friendly information systems infrastructure that will allow the organization to focus on production rather than means of production. The network will facilitate the productive output of each employee and provide the organization with a considerable competitive edge.

### General Education

The project Lead will organize a training program for all members of the organization a will address the following areas:

- Network resource utilization
- Macintosh operating system overview
- Acceptable use of network resources
- Information systems security
- Basic troubleshooting
- Acceptable email and Internet use

Further,

- A training program obtained from Nemetscheck VectorWorks for Architects and Draftsmen
- Documentation for the acceptable use of the information systems resources and basic troubleshooting of workstation and network problems will be provided.

### Information Technology

- □.1 The proposed project involved a complete design and implementation of an information systems infrastructure and encompass all aspects of network design and implementation:
  - a. Wiring and network device installation and configuration
  - b. Server and disaster recovery installation and configuration
  - c. Workstation and peripheral device installation and configuration
  - d. Fault testing network infrastructure
  - e. Training and documentation for information systems infrastructure

(Cont. next page....)



- .2 The proposed project will provide TAND with the opportunity to exercise learned Project Management skills as the overall project management is critical to the success of the project.
  - a. Project scheduling and tracking
  - b. Communication and conflict resolution
  - c. Organization and management of tam members and consultants
- .3 The proposed project will allow TAND to utilize crucial systems administration skills and techniques as the project moves into the final phase.
  - a. The entire system must be maintained on a regular maintenance schedule
  - b. Updates to all software and firmware must be performed on a regular schedule
  - c. General system support must be offered to the organization and must be provided in a timely, effective, an professional manner as to not impede the productivity of the organization
  - d. additional training must be provided as new software is installed and employees are added.
  - e. Disaster prevention and recovery must be performed regularly and in the event of a data loss

## Annotated Bibliography

Apple, Inc. (2009). *Apple Support*. Retrieved October 1, 2009 from <http://support.apple.com/downloads/>

Apple, Inc. (2009). *Apple Store*. Retrieved October 1, 2009 from <http://store.apple.com/us>

Pricing, specifications, operating systems, corresponding software, and model numbers for the Mac workstations and server indicated in this project can be collaborated using Apple's website.

Informational support including driver downloads, user manuals, Mac forums, and other Apple specific technical information will be used in the installation and training package included within the scope of this project.s

Cerruzi, P (2003). *A history of modern computing*. (2nd). Cambridge, MA, MIT Press.  
ISBN: 0-262-53203-4



This book goes over the past successes within information systems, presenting the changes of computers over time. This is useful in directing the forward movement of the project, leaving room for scalability within the proposed system.

Cisco System, Inc (2009). *Cisco*. Retrieved October 1, 2009 from <http://www.cisco.com/>

This website is a plethora of information supporting the purchase, installation, and maintenance of all networking devices contained within this project. Including routers, hardware specifications, pricing, and customer support for all network products and configurations.

Dell, Initials. (2009). *Small and medium business learning center*. Retrieved from <http://www.dell.com/business?~ck=mn>

This website offers business discounts on the workstations, computer software and peripherals including printers and scanners. Excellent customer support is offered online and via telephone from this company, offering free and ongoing support while outside the scope of the TAND project, beneficial to the Kinsley & Associates.

Laudon, J, & Laudon, K. (2001). *Essentials of Business Information Systems*. Pearson Prentice Hall. Corresponding website: [http://wps.prenhall.com/bp\\_laudon\\_essbus\\_7/48/12301/3149209.cw/index.html](http://wps.prenhall.com/bp_laudon_essbus_7/48/12301/3149209.cw/index.html)

This book offers the theory, including the benefits and disadvantages behind a series of project management approaches. These approaches offer detailed observations and directions in the creation of Gantt Charts, the planning cycle, organizational design, and scope control.

Reynolds, G (2007). *Ethics in Information Technology*. (2nd). Boston, MA, Thomson. ISBN: 1-4188-3631-1

This book goes over the what is appropriate within the information technology department in regards to employee surveillance, property infringement, privacy, and compliance.

Snedaker, Susan (2006). *Syngress IT Security Project Management Handbook*. Rockland, MA: Syngress Publishing.

This book helps IT professionals learn how to handle new jobs and duties like, budgeting, managing employees, and measuring the usefulness of new technologies.

Subramanian, M. (2000). *Network Management : Principles and Practice*. Addison-Wesley Longman, Inc.

This book goes over the technical details of networking, including configuration, hardware, security, and policy management.

Whitman, M., & Mattord H. (2009). *Principles of information security* (3rd ed.). Boston, MA: Course Technology.



This book goes over the risks involved with stored data, the laws that protect privacy information laws, and ways to protect networks.