STEPS TO SUCCESS – for IP Telephony

PRESALE

Presale Phase
Choose a Step for IP Telephony
Step 1. Qualify
Step 2. Solution Education
Step 3. Business Solution Development
Step 4. Technical Solution Development
Step 5. Develop Proposal

Step 1: Qualify

As you prepare to introduce your offering to a potential customer, identify key stakeholders and conduct interviews to gather high-level solution requirements.

The goal of the qualification is to identify the key players, issues, timelines, and scope of the opportunity.

Tasks Required for this Step

1. Review Account History:
To be successful, understand the customer's business needs, and the information that has been provided by competitors. Be aware of what is top of mind for decision makers and what recommendations and technical solutions have been made. Identify who the executive stakeholders are and how much support competitors have attained from those stakeholders. Armed with this information, the sales team can better establish their sales strategy.

2. Identify Key Stakeholders:
Identify the stakeholders whose areas will be impacted by the deployment of an IP telephony solution and their high-level business requirements and challenges. The stakeholders will provide insight about their requirements, challenges, issues, timelines, scope of opportunity, and the team members who will be supporting the solution implementation.

Develop a business case with the executive sponsors prior to making a technical pitch in order to maximize the sale of your professional services.

Determine the plan for communicating with and among all team members who will be involved with supporting the customer.

3. Perform Discovery Process:
In addition to knowing the key stakeholders of a solution implementation, research the unique challenges each stakeholder faces. To propose a viable solution, balance the competing needs of these challenges and understand the business and technical environment of the customer.

4. Conduct Initial Interviews:
Interview various customer contacts within key stakeholder areas to get a basic understanding of the needs that the solution should address.

Track stakeholder input in preparation for developing presentations and demonstrations that map solutions to customer needs.

Identify an executive sponsor who can share strategic insight for developing the business case and technical proposal. The sponsor can also help set up interviews with other key stakeholders.

Resource	Type	Format	Technology
Executive Sponsor Qualification Questions	Template	doc	Baseline
Initial Qualification Questions	Template	doc	Baseline

Step 2: Solution Education

Educate the potential customer by presenting an overview of the applicable Cisco solutions and conduct demonstrations to showcase their capabilities.

Tasks Required for this Step

1. Solution Demonstrations:
Demonstrate how a Cisco solution can be designed to address the customer's specific business and technical needs. The initial interviews will provide the customer information on how Cisco solutions can address their needs.

Resource	Type	Format	Technology
Demo Scripts	Template	pdf	Baseline
Executive Briefing Center Guidelines	Guide	url	Baseline
Penetrating Vertical Markets with Cisco's IP Communications Solutions	Presentation	pdf	IP Telephony
Cisco Partner Playbook	Guide	pdf	IP Telephony
Innovation & Technology - Voice News	Website	url	IP Telephony
Innovation & Technology - Voice Articles	Website	url	IP Telephony
IP Communication App Central	Website	url	IP Telephony
Aptigen Portal	Website	url	IP Telephony
XML HotDispatch	Website	url	IP Telephony
Clarus Systems - Address Voice Quality Concerns	Guide	url	IP Telephony
Voice Solutions for Small and Branch office Technology At-A-Glance	Guide	pdf	IP Telephony
Voice Solutions for Small and Branch office Case Studies	Guide	url	IP Telephony
Business Ready Branch Technology At-A-Glance	Guide	pdf	IP Telephony

2. Presentation:
Deliver a presentation to educate the customer team on the range of products and services offered for an implementation, aligning these offerings with the needs that the customer has expressed.

Resource	Type	Format	Technology
IP Telephony Services Presentation	Template	pdf	Baseline
Customer Success Stories	Guide	url	Baseline
Road to Five Nines	White Paper	pdf	Baseline
Cisco at Work: Cisco Internal Case Study	Case Study	pdf	IP Telephony
Cisco Internal Case Study: Centralized Call Processing	Case Study	pdf	IP Telephony
Cisco Internal Case Study: Survivable Remote Site Telephony Case Study	Case Study	url	IP Telephony
Partner Success Stories	Guide	url	IP Telephony
Sample Cisco CallManager Presentation	Template	ppt	IP Telephony
IPC Converged Applications Support Model White Paper	White Paper	pdf	IP Telephony
Best Practices for IPC Communications Services Article	Article	pdf	IP Telephony

Step 3: Business Solution Development

As the high-level business needs become clearer, probe the customer team for more detailed information to further assess needs and to assist the customer in building a business case for the IP telephony solution. This solution should be tailored to address the customer's most critical business and technical needs and provide the quickest return on investment.

Tasks Required for this Step

1. Conduct Detailed Interviews:
In addition to understanding high-level business requirements, an internal IT team should conduct interviews at all levels so that specific system requirements can be identified. Here, issues where IP telephony provides advantages, such as frequent moves and changes as well as call patterns, are identified.

To effectively build a business case, show linkage between the technical solution and the business value specific to the customer's requirements. In order to do this, interview many or all of the key stakeholders who will have a role in deciding what solution to choose. With the information gathered, build a business case and financial justification beyond just 'hard dollar' savings.

Using the CNIC tools in conjunction with the interview process is recommended.

Resource	Type	Format	Technology
Sample Interview Questions	Template	doc	Baseline

2. Develop Financial Justification:
Calculate the customer's ROI for Cisco IP telephony solutions. This will help the customer's technical and business leaders to assess the financial implications of a system upgrade or new system acquisition and develop an accurate business justification.

A tool supporting this task is the Cisco Network Investment Calculator (CNIC), which has been designed to calculate a customer's Return on Investment (ROI) for Cisco technology solutions. To understand how to use the tool, Cisco provides an on-line training guide. The CNIC helps to facilitate the ROI analysis process by providing a framework for the gathering of the necessary data, the analysis of the various costs and benefits, and the calculation of the impact or return on the investment. Additional information can be found on Cisco.com regarding the ROI Overview and Methodology, as well as supporting ROI Case Studies & White Papers.

Resource	Type	Format	Technology
Cisco Network Investment Calculator	Tool	url	Baseline
Worth IP Program	Website	url	IP Telephony
Cisco Systems Capital Account Managers	Website	url	Baseline

3. Conduct Competitive Analysis:
Identify competing solutions that the customer may be considering and provide facts that differentiate the Cisco solution you intend to propose. In very competitive situations, Cisco can provide detailed competitive assistance. Please contact your Cisco Account Manager.

4. Develop High-Level Solution and/or Application Story:
Develop and present the high-level application story, which includes:

- A business case that incorporates all business considerations identified through interviews, financial justification, and competitive analysis
- A solution to meet a customer's needs that includes a high-level description of the application components being proposed

Conduct a formal application discovery session that will help define and plan IP Communications Applications that meet customer business objectives as an integral part of the overall IP telephony planning and design process.

Cisco offers the Application Discovery Voucher Program to enable IP Telephony specialized partners to engage any participating Cisco application developer for one application discovery session with their customer.

Resource	Type	Format	Technology
Solution Presentation Template	Template	ppt	Baseline
Selling IP Communication Solutions	Presentation	ppt	Baseline
Penetrating Vertical Markets with Cisco's IP Communications Solutions	Presentation	pdf	IP Telephony
Application Discovery Voucher Program	Tool	url	IP Telephony
Selling Cisco Call Manager Express with Cisco Unity Express	Guide	pdf	IP Telephony

Step 4: Technical Solution Development

The early stages of technical solution development involve preliminary assessment of technology and its potential to meet the business requirements. This helps narrow the field of potential solutions. In the early stages of technical solution development, a customer is frequently assessing options for supporting a potential new system.

Early in the sales cycle, regardless of whether a billable planning and design engagement will occur, collect a minimum set of technical information in order to develop a high-level understanding, of the customer's technical requirements. The Customer Requirements Document will be used throughout this step to develop an initial diagram, equipment list, and scope of services to be provided. Additional planning and design activities will be required to refine the design if the customer is not going to purchase planning or design services. Use the necessary documents in the Planning and Design Sections of Steps to Success in order to refine your technical solution to the final configuration to be presented to the customer.

Tasks Required for this Step

1. Identify Initial High-Level Design Requirements:
Review feedback collected during presentation of the high-level solution story to identify the high-level design requirements.

Begin organizing the high-level design requirements to build content for the final customer proposal.

Resource	Type	Format	Technology
Customer Requirements Document	Template	doc	Baseline

Presales Technical Customer Requirements Document: Application Design Section	Template	doc	IP Telephony
Clarus Systems Automation of Acceptance Testing	Guide	udf	IP Telephony

2. Perform Initial Audit of Existing Infrastructure Architecture:
The system designer assesses the customer's current infrastructure to determine the optimal solution architecture approach. This provides a way of highlighting any infrastructure deficiencies so that the client can mitigate the risk of implementation.

Resource	Type	Format	Technology
Customer Requirements Document	Template	doc	Baseline
Presales Technical Customer Requirements Document: Technical Audit Section	Template	doc	IP Telephony
Baselining Checksheet	Template	doc	IP Telephony
IPT Readiness Assessment	Tool	url	IP Telephony

3. Perform Initial Network Analysis:
Using available tools, systems designers collect data on the network. Evaluate information such as the current state of the network and collect data related to the high-level design requirements.

Subtask:

- **Perform Initial Traffic Analysis:**

Collect data on all potential converged infrastructure traffic flows. Use SMDR and billing records to determine legacy call volumes and use network management tools to collect key statistics on your IP data network.

There are a number of tools available to assist in the collection and analysis of this data.

Resource	Type	Format	Technology
Customer Requirements Document	Template	doc	Baseline
Presales Technical Customer Requirements Document: Initial Traffic Analysis section	Template	doc	IP Telephony
IPT Readiness Assessment	Tool	url	IP Telephony

4. Perform an Initial Hardware and Software Gap Analysis:
A hardware gap analysis should address space, power, cabling, conduits, PBX's, Key Systems, switches, routers, servers, WAN connections including analog and digital voice, and demarcs. In addition, it is very useful to obtain floor plans and campus maps, including utilities and conduit systems. Deficiencies in infrastructure should be identified and addressed prior to installation.

Pay particular attention to ensuring that the cabling infrastructure will support your cut over plans. Make sure that servers and operating systems, as well as switches and routers with limited resources and capabilities are identified. Create a plan to address their role in the converged network.

Resource	Type	Format	Technology
Customer Requirements Document	Template	doc	Baseline
PCS Corner	Website	url	Baseline
Presales Technical Customer Requirements Document: Gap Analysis section	Template	doc	IP Telephony
IPT Readiness Assessment	Tool	url	IP Telephony

Subtask:

- **Perform Initial Legacy Integration Analysis:**

Collect information regarding the potential legacy system integration points for the solution from the customer. Based upon those findings, develop the high-level design considerations to allow the Cisco solution to fit into the customer architecture.

Resource	Type	Format	Technology
Customer Requirements Document	Template	doc	Baseline
Presales Technical Customer Requirements Document: Legacy Integration Analysis section	Template	doc	IP Telephony

5. Develop Initial Solution Design:
Consolidate high-level design requirements and customer-specific infrastructure considerations to develop the high-level Cisco solution

design.

Create alternative designs for the customer to consider later in the Customer Requirements Verification step.

Resource	Type	Format	Technology
PDI Help Desk	Guide	url	IPT
Interoperability Check - IP Communications Systems Test	Guide	Website	IPC
Interoperability Check - Cisco Interoperability Portal	Guide	Website	IPC
Customer Requirements Document	Template	doc	Baseline
Design Checksheet	Template	doc	Baseline
Reference Architectures	Guide	url	Baseline
Sample BOMs	Template	doc	Baseline
Presales Technical Customer Requirements Document: Design Section	Template	doc	IP Telephony
Letter of Agency	Template	doc	IP Telephony
PDI Help Desk	Guide	url	IP Telephony

Subtask:

- **Conduct Voice Assurance Process:**

Depending on the complexity of the potential customer solution, Cisco invites an IP telephony specialized partner to participate in the Voice Assurance process. Voice Assurance is a process used to evaluate proposed IP telephony designs before presentation to a customer. It ensures the use of appropriate configuration and networking considerations, as well as the complete service strategy mapping to the Cisco IPC Services Blueprint standard. The program aims to reduce the risk of one-off system design, which is generally high effort, but low return.

For more information about the Voice Assurance process, a partner can contact their Channel Account Manager.

Resource	Type	Format	Technology
Channel Account Manager Locator	Tool	url	Baseline

6. Develop Initial Operations and Support Framework:
Develop the operations and support framework to help ensure that the customer will have a workable strategy for supporting the system.

Present recommendations for the operations and support framework for the customer's consideration.

Resource	Type	Format	Technology
Customer Requirements Document	Template	doc	Baseline
Presales Technical Customer Requirements Document: Support section	Template	doc	IP Telephony
IPT Operations Assessment	Tool	url	IP Telephony
IPC Services Blueprint	Guide	doc	IP Telephony
IPC Services Blueprint Checklist	Template	doc	IP Telephony

7. Identify Initial Service Requirements:
Identify and outline the high-level requirements for the application services as the high-level solution becomes clearer.

Resource	Type	Format	Technology
IPC Services Blueprint	Guide	doc	IP Telephony
IPC Services Blueprint Checklist	Template	doc	IP Telephony

8. Develop Initial Statement of Work:
Consolidate all the findings of the prior tasks in this step, such as:

- High-level requirements for the application design, solution design, service requirements and operations and support framework
- Recommendations for the infrastructure architecture

Outline the preliminary scope of the solution and the elements required to meet the implementation objectives.

Draft the initial statement of work.

Resource	Type	Format	Technology
IPC Services Blueprint	Guide	doc	IP Telephony
IPC Services Blueprint Checklist	Template	doc	IP Telephony

Step 5: Develop Proposal

When the customer is ready to receive a proposal, they will likely issue a Request for Proposal (RFP).

Draft a proposal aligned with the customer's needs so that the system specifications and product capabilities described accurately reflect the customer's business and technical requirements.

Cisco provides proposal templates and sample proposals that customers, consultants, and partners may find useful. Please contact your Cisco representative for more information.

Verify that your proposal complies with the customer's RFP requirements or it may be rejected.

Tasks Required for this Step

1. Prepare Executive Presentation:
Compile a high-level overview of the proposal components into a presentation targeted to a non-technical, executive level audience. Include return on investment calculations pertinent to the customer's business requirements.

Compile ROI data and sources into the presentation's backup slides. Be prepared to refer to information gathered during earlier interviews so that the executives can see that the numbers came from qualified people in their company and are therefore credible.

Be prepared to provide preliminary budgetary pricing if requested by customer.

Present the overview to the key stakeholders, striving to reach an agreement that the Cisco solution meets the customer's business requirements better than any competing proposal.

Gather additional feedback provided during this presentation to include as content in the final proposal.

Resource	Type	Format	Technology
Solution Presentation Template	Template	ppt	Baseline

2. Consolidate Proposal Content:
At this point, all the major components of a proposal have been gathered. These components can be compiled and developed into a document to respond to the customer's RFP. Customers may issue RFP guidelines; therefore, responses must strictly comply with a customer's RFP requirements or your proposal may be rejected.

Resource	Type	Format	Technology
Sample Proposal	Template	doc	Baseline
IPT RFP Response with Answers	Guide	doc	Baseline
Creating RFPs for converged Voice, Video and Data Networks	White Paper	pdf	IP Telephony

3. Present Proposal:
Schedule a meeting to review the proposal response with the stakeholders. A customer may request an advance copy of the proposal prior to this meeting.

If the proposal is rejected, see if it can be revised and resubmitted for consideration. If accepted, move forward to finalize the Statement of Work and execute the contract based upon the customer's business procedures. Once the contract is signed, prepare for the Plan phase of the project.

PLAN

Plan Phase
Choose a Step for IP Telephony Step 1. Customer Requirements Verification Step 2. Project Kickoff Step 3. Conduct a Planning Workshop Step 4. Perform Low-Level Site Survey

Step 1: Customer Requirements Verification

Verify the presale assessment of high-level customer needs with the customer to ensure that you and the customer are in agreement and that customer expectations are met.

Discuss design alternatives and ensure that the customer understands the implications of each alternative.

The system designers and the customer can use the Solutions Guide to achieve a high-level understanding of the concepts. Specific design guides are available for the more detailed work to follow.

The system designer verifies customer business requirements to help ensure selection of the most appropriate design.

If not conducted in the Pre-Sale phase, use the Application Discovery session to help define and plan IP Communications applications to meet the customer business requirements during the planning and design process.

Step 2: Project Kickoff

The kickoff meeting provides an opportunity to further define your responsibilities as well as customer's. Assign action items and dates, and respond to questions or concerns.

Tasks Required for this Step

1. Internal Kickoff Meeting
Conduct a kickoff meeting for the Plan phase with your internal implementation team to strategize customer planning activities.

Resource	Type	Format	Technology
Workshop KickOff Agenda Internal	Template	doc	Baseline

2. Customer Kickoff Meeting
Host a meeting with the customer's implementation team to begin the Plan phase of the solution implementation and set expectations regarding planning activities.

Resource	Type	Format	Technology
Workshop KickOff Agenda External	Template	doc	Baseline

Step 3: Conduct a Planning Workshop

The planning workshop is an interactive session in which you and the customer clarify high-level requirements, set expectations, and define the project environment through activities including:

- Designation of the project-management structure
- Discussion of design requirements, alternatives, and deliverables
- Preparation of a high-level project plan
- Determination of resource requirements and the organization's readiness for change
- Establishment of the project communication plan
- Creation of the customer to-do list and action plan
- Development of a strategies for training and for network monitoring and support
- Assessment of risk
- Review project templates
- Obtainment of final customer acceptance

Tasks Required for this Step

1. Set Client Expectations:
Define the goals and expected outputs of the Planning Workshop, and outline expectations for the customer's participation and input.

Resource	Type	Format	Technology
Planning Workshop Agenda	Template	doc	Baseline
Planning Workshop Slides	Template	ppt	Baseline
Planning Workshop Consideration Checksheet	Template	doc	Baseline
Customer Provided Information Checksheet	Template	doc	Baseline
(Cisco Press) The Complete IPT Migration Planning guide -- How Cisco Systems Migrated from PBX to IP Telephony	Book for Purchase	hard copy	IP Telephony
Letter of Agency	Template	doc	IP Telephony
IP Telephony Planning Phase Findings Report	Template	doc	IP Telephony
Voice Design and Implementation Guide	Guide	url	IP Telephony

2. Discuss Design Requirements, Alternatives, and Deliverables:
Review the high-level design requirements identified during the presales interviews.

Discuss design alternatives and ensure that the customer understands the implications of each alternative. Support the customer in choosing a final design.

Plan the design deliverables, addressing solution capabilities, hardware, software, documentation, partner implementation services, the project critical path, and any project milestone agreements.

3. Designate Project Management Structure:
Assign a project manager with the responsibility and authority to meet project deliverables on time and on budget. The project manager:

- Manages equipment and labor
- Schedules resources
- Coordinates work activities
- Serves as a conduit for the flow of information from the customer to all vendors
- Provides status updates to the decision makers on the customer team

4. Determine Resource Requirements:
The project manager estimates and assigns labor and equipment resources to support the planned work activities, as well as contingency resources.

5. Perform an Operations Readiness Assessment:
Operations Readiness Assessment evaluates the current state of customer's operations and network management infrastructure including people, processes and tools to support IP Communications. The service provides a set of recommendations and a remediation plan that are delivered to the customer in advance of the technology being deployed.

Resource	Type	Format	Technology
Network Availability Improvement Support	Website	pdf	IPT
IP Communications Services	Website	url	IPT
Web based Operational assessment	Website	url	IPT

6. Develop a Training Strategy:
Assist the customer in determining the training strategy for the customer's resource plan and for customer user training. The training strategy will be part of the final design deliverable.

Provide high-level training outlines to address the customer's needs.

Resource	Type	Format	Technology
Partner E-Learning Connection	Tool	url	Baseline
Cisco Learning Offerings	Tool	url	Baseline
ATP Program Overview and Tools	Website	xls	IPCC Enterprise

7. Develop a Support Strategy:
Develop the high-level strategy for network monitoring and day-1 and day-2 support, including customer benefits and responsibilities.

Showcase the various support options available to the customer.

8. Develop Project Implementation Budget:
Work with the customer to build out the budget that will support the end-to-end project implementation. Based upon the resource requirements and timeframes, offer guidance on how the overall budget should be allocated through the various phases of the project including resources, equipment, training and support. The key stakeholders should validate the proposed budget to ensure progress can be tracked against expenditures feasibly.

9. Prepare High-Level Project Plan:
The project manager creates a high-level project plan to establish and communicate roles, deliverables, dependencies, and timelines for activities detailed in statement of work (SOW) deliverables as well as tasks involving scheduling resources, purchasing equipment, training, and support activities.

The partner and customer teams agree to the project plan. They also agree to complete all planned work activities under the direction of the project manager and in accordance with the plan.

Resource	Type	Format	Technology
Project Control Register	Template	xls	Baseline
Planning Phase Project Plan (same as .xls below)	Template	mpp	IP Telephony
Planning Phase Project Plan (same as .mpp above)	Template	xls	IP Telephony
Implement Phase Work Plan	Template	mpp	IP Telephony

10. Establish Project Communication Plan:
Assist the customer in establishing a clear communication structure for accomplishing a majority of the project management tasks.

Depending on the scope of the project, project management tasks may include defining formal and informal processes for reporting status, resolving issues, controlling change, assuring quality, and validating key milestone dates.

11. Create Customer To Do List and Action Plan:
The project manager and the customer task owner(s) must ensure that the action items from the customer's To Do list have been completed or will be completed on time to mitigate risk around the implementation.

12. Conduct Risk Assessment:
Review the high-level project plan to identify any risks and establish contingency plans.

Resource	Type	Format	Technology
Risk Assessment Tool	Tool	xls	IP Telephony

13. Determine Organization Change Readiness:
A solution implementation typically requires significant people, process and organizational change to be successful. This task should help to mitigate organizational risk.

Assess the potential impact of change and organizational readiness for change in order to mitigate risk.

Direct the customer to develop a plan for managing organizational change that addresses four areas of risk: sponsorship, resistance, cultural alignment, and skills.

Resource	Type	Format	Technology
Organization Change Readiness Assessment Template	Template	xls	Baseline

14. Review Project Templates:
Ensure that tools and templates exist to support the execution of activities in the Plan, Design, Implement, Operate, and Optimize phases of the network lifecycle.

Resource	Type	Format	Technology
Project Control Register	Template	xls	Baseline
Project Plan (same as .mpp below)	Template	mpp	IP Telephony
Project Plan (same as .xls above)	Template	xls	IP Telephony
IP Telephony Planning Phase Findings Report	Template	doc	IP Telephony

15. Obtain Final Customer Acceptance:
Validate the findings and direction established in the workshop with the key stakeholders to complete the planning workshop.

Provide the customer with a letter of understanding summarizing the outcome of the workshop and verifying that the workshop deliverables were fulfilled per the SOW.

Assemble the plans and strategies generated in the workshop into a single deliverable.

Step 4: Perform Low-Level Site Survey

Conducting a low-level site survey involves assisting the customer in assessing the adequacy of physical infrastructure.

The assessment focuses on requirements for space, cabling, conduits, racks, patch panels, power, and HVAC, as they pertain to acquiring and deploying a new system.

More detailed site surveys will be performed prior to installation during the Implement phase.

Tasks Required for this Step

1. Develop Site Specification:
Develop a complete floor plan, showing the location of all components including set and jack locations. If E911 is a component of the solution, the floor plan can be used for E911 ERL layouts.

The Site Requirements Specification provides details of the physical, electrical and environmental requirements required by the customer in order to prepare their site to accommodate the equipment to be deployed. This includes cable specifications, circuit specifications (site to site, ISDN remote access, etc.), and roles and responsibilities (who will be responsible for providing cables - partner/customer, etc.) The template should be populated for a single customer site with separate documents for each site that the customer network consists of if each site has different requirements.

Resource	Type	Format	Technology
Site Survey Form	Template	doc	Baseline
Advanced Site Survey Template (use with matrix below)	Template	doc	Baseline
Advanced Site Survey Matrix	Template	xls	Baseline
Site Requirements Specification Template	Template	doc	IP Telephony
Access Cisco's Deployment Kit containing populated templates and detailed case studies for this task			

2. Perform an Inventory or Audit of Existing Traffic Volumes of Pattern:
Using available tools systems, designers should perform a network readiness assessment by collecting data on all potential converged infrastructure traffic flows. Station message detail reporting (SMDR) and billing records can be used to determine legacy call volumes, and network management tools can be used to collect key statistics on the IP data network. Numerous tools are available to assist in the collection and analysis of this data.

Resource	Type	Format	Technology
NetIQ Vivinet Assessor	Website	url	IP Telephony
IPT NRA procedures	Guide	doc	IP Telephony
IP Communications Services	Website	url	IP Telephony
AVVID Network Infrastructure Assessment	Website	url	IP Telephony
Network Infrastructure Readiness Assessment Questionnaire	Guide	doc	IP Telephony

3. Survey and Inventory the Network:
During the process of performing a network readiness assessment, obtain a survey of the customer's network layout and document the physical inventory of the supporting hardware components and IOS versions, and ensure that the components in the network infrastructure are able to support IP communications as outlined in documentation for AVVID networks.

Resource	Type	Format	Technology
Advanced Site Survey Template (use with matrix below)	Template	doc	Baseline
Advanced Site Survey Matrix	Template	xls	Baseline
NetIQ Vivinet Assessor	Website	url	IP Telephony
IPT NRA procedures	Guide	doc	IP Telephony
IP Communications Services	Website	url	IP Telephony

AVVID Network Infrastructure Assessment	Website	url	IP Telephony
Network Infrastructure Readiness Assessment Questionnaire	Guide	doc	IP Telephony

4. Provide for Network Security:
The system designer establishes the high-level plan for components that ensure the security and integrity of the system. This must be done in close coordination with the customer's overall network security architecture and system.

Cisco offers advanced security technologies that not only focus on intrusion prevention, but also on early detection. These technologies provide comprehensive coverage for a Cisco IP Communications system and are grouped into the following three categories:

- Network security
- Host security
- User authentication, authorization, and accounting

Combining these advanced security technologies with consistent and effective operational processes, and IP networking - which is designed for resilience, results in a comprehensive security policy and an IP Communications system that can surpass the availability and resilience of a TDM-based communications system.

For more detailed information about providing Security to the network visit the Steps to Success for Cisco Network Security and VPN Solutions

Resource	Type	Format	Technology
Cisco IP Communications Security Executive Overview	Guide	pdf	IP Telephony
SAFE: IP Telephony Security in Depth	White Paper	url	IP Telephony
Cisco IP Telephony Solution Reference Network Design	Guide	pdf	IP Telephony
SAFE Blueprint	Website	url	IP Telephony
Installing Cisco Security Agent 4.0.1.539-1.1.3 for Cisco CallManager Releases 3.2(3) and 3.3	Guide	url	IP Telephony
Installing and Configuring the Cisco IDS Host Sensor on Cisco CallManager Versions 3.3, 3.2, 3.1, and 3.0	Guide	pdf	IP Telephony
Using McAfee NetShield with Cisco CallManager	Guide	pdf	IP Telephony
Using MacAfee Virus Scan with CCM 3.3(3)	Guide	pdf	IP Telephony
Using Symatec AntiVirus with CCM 3.3(3)	Guide	pdf	IP Telephony

DESIGN

By now a plan has been established and an initial solution incorporating customer specific infrastructure considerations has been developed

In the Design phase, the project team focuses on developing the low-level design that will be followed during the Implement phase. The team reviews the design and presents the final Low-Level Design to the customer for acceptance.

The team makes decisions on:

- How to meet application, support, back-up, and recovery requirements
- Migration strategy, test plans, training plans
- Device configurations (which parameters and features to turn on or off, and which protocols to use).

The team assesses the current state of the network to identify the potential impact of the solution that they plan to implement.

Most steps in this phase occur before a contract is signed. After the contract is signed but immediately prior to system installation, complete a final design review to ensure a higher probability of success and account for any changes that may have occurred during contract creation.

Design Phase
Choose a Step for IP Telephony
Step 1. Host a Design Workshop
Step 2. Low-Level Design
Step 3. Detailed Design Review
Step 4. Present Low-Level Design to Primary Decision Maker for Acceptance

Step 1: Host a Design Workshop

The design workshop should be a collaborative effort between the customer's resources and your design engineers. This design workshop should have two goals:

Craft a primary and alternative solution that meets or exceeds the customer's goals and expectations defined in the Plan phase
Provide the detailed data necessary to complete the Design phase and develop a solution.

The design should support the customer's business and technical requirements, including security, quality of service (QoS), and system management.

Tasks Required for this Step

1. Generate a Low-Level Migration or Integration Strategy:
Develop the migration or implementation strategy for the final design deliverable.

The strategy:

- Contains a detailed plan for migration from legacy equipment or for ensuring the solution interoperates with legacy equipment.
- Provides an overview of any upgrades or configuration changes necessary to accomplish the above.
- Clearly defines roles and responsibilities of the partner, the customer, and other vendors for making any necessary changes.

Resource	Type	Format	Technology
Design Phase Sample Project Plan (same as .mpp Project Plan below)	Template	xls	Baseline
Design Phase Sample Project Plan (same as .xls Project Plan above)	Template	mpp	Baseline
Design Workshop Slides	Template	ppt	Baseline
Design Consideration Checksheet	Template	doc	Baseline
IPC Services Blueprint	Template	ppt	IP Telephony
Cisco IP Telephony Solution Reference Network Design (SRND) Guide	Solution Guide	url	IP Telephony
Additional Design Guides	Solution Guide	url	IP Telephony
IP Telephony Design Phase Findings Report	Template	doc	IP Telephony
Low-Level Design Template	Template	doc	IP Telephony
Access Cisco's Deployment Kit containing populated templates and detailed case studies for this task			

2. Perform a Tradeoff Analysis between Primary and Alternate Solutions:

A tradeoff analysis can provide a review that differentiates between technical capabilities, implementation implications, as well as carrier facilities, ongoing management, administration and support cost of the various approaches. Reaffirm with the customer the implementation and on-going support strategy for the system.

Analyze tradeoffs of the two designs, to determine which meets customer objectives with least risk. Consider:

- Implications of migrating from the existing solution vs. deploying a solution that interoperates with the existing solution.
- Differentiate between implementation implications, as well as carrier facilities.
- Technical aspects of administration and management.
- Costs associated with operating either design.

3. Perform a Gap Analysis between Existing and Proposed System:
The designer obtains a list of desired features that the customer expects and that both parties agree will deliver the required functionality for the IPT system.

Gap analysis can help ensure that the new system will deliver both the technical and business telephony functions the customer is expecting.

The output of a gap analysis provides a proof point that the partner or Cisco can use to show a customer the advantages of the Cisco IPT solution.

4. Finalize Training Strategy:
Expand the high-level training strategy into a detailed strategy outlining training for the customer's support resources and the customer's users. The training strategy is part of the final design deliverable.

The detailed strategy addresses the following points in two sections:

- Training for customer support resources: Determine the training necessary for the customer's resources to carry out migration or implementation responsibilities and support the network.
- User training: Create the training course outline, content, and proposed class schedule, and list the partner and customer responsibilities. Identify additional third-party training resources available that may be required for effectively managing the technology solution. Based upon findings in the Plan phase, you may have the opportunity to propose additional training for newly discovered considerations.

Based upon findings in the Plan phase, you may have the opportunity to propose additional training for newly discovered considerations.

Resource	Type	Format	Technology
Cisco Learning Offerings	Tool	url	Baseline

5. Finalize Support Strategy:
Finalize the initial support strategy surrounding network monitoring and day-1 and day-2 support based upon additional findings in the Plan phase. Identify and plan proper escalation procedures and processes.

Seek additional opportunities to revisit the customer's network-support options. Address any requirements identified during the Design phase that may have changed since the initial support plan was created.

6. Finalize Network Security Strategy:
Outline the details around components that ensure the security and integrity of the system. Once again, this strategy must be validated with the customers overall network security architecture and system guidelines.

For more detailed information about providing Security to the network, visit the Steps to Success for Cisco Network Security and VPN Solutions

Resource	Type	Format	Technology
SAFE Blueprint	Website	url	Baseline
Cisco IP Communications Security Executive Overview	Guide	pdf	IP Telephony
SAFE: IP Telephony Security in Depth	White paper	url	IP Telephony
Cisco IP Telephony Solution Reference Network Design	Guide	pdf	IP Telephony
Installing Cisco Security Agent 4.0.1.539-1.1.3 for Cisco CallManager Releases 3.2(3) and 3.3	Guide	url	IP Telephony
Installing and Configuring the Cisco IDS Host Sensor on Cisco CallManager Versions 3.3, 3.2, 3.1, and 3.0	Guide	pdf	IP Telephony

Using McAfee NetShield with Cisco CallManager	Guide	pdf	IP Telephony
Using MacAfee Virus Scan with CCM 3.3(3)	Guide	pdf	IP Telephony
Using Symatec AntiVirus with CCM 3.3(3)	Guide	pdf	IP Telephony

Step 2: Low-Level Design

Create the low-level design (LLD) and solution design specifics. Formulate the implementation plan, including the expectations of the customer.

The LLD is the core of the final design deliverable. It provides the proposed solution topology and articulates how the proposed design fulfills the requirements outlined during the planning workshop.

Tasks Required for this Step

1. Conduct Detailed Design-Business Requirements Gap Analysis:
Review customer's business and technical requirements thoroughly to ensure that the LLD will meet the customer's solution needs.

Make a note of requirements that may not appear to have been addressed in earlier phases so they can be considered in the final tasks of creating the LLD.

2. Develop Detailed Solution Design:
Use the high-level design requirements to develop the detailed design.

The system designer outlines the detailed design considerations related to the solution's goals. Typically generated items from this design include bill of materials, network topology diagrams, proposed traffic flows and budgetary pricing.

Resource	Type	Format	Technology
PDI Help Desk	Guide	url	IPT
PCS Corner	Website	url	Baseline
PDI Help Desk	Guide	url	IP Telephony

- Additional Subtasks Related to this Task:

Develop Detailed Application Design
Develop System Backup, Rollback and Recovery Strategy
Complete Detailed Site Survey and Network Topology

3. Begin Implementation Planning:
Use findings from the Design phase to develop a high-level implementation plan that covers management of equipment, power and grounding, hardware procedures, and customer implementation expectations.

Develop an implementation plan to coordinate the transition from completing the LLD to initiating the Implement phase.

Resource	Type	Format	Technology
Network Implementation Plan Template	Template	doc	Baseline
IP Telephony Design Phase Findings Report	Report	doc	IP Telephony

3. Finalize Customer To-Do List and Action Plan:
The project manager and the customer task owners must ensure that the action items from the customer's to-do list have been completed or will be completed on time to mitigate the risk during implementation.

Step 3: Detailed Design Review

The project manager, principal designer, and customer review and discuss the details of the design to ensure that all parties are in agreement that the proposed low-level design (LLD) satisfies the business requirements.

If requirements have changed, revise to create what should be the final design for developing the implementation project plan.

All parties sign off on the new design.

Tasks Required for this Step

1. Conduct Integration Analysis:
Analyze features and protocols in the low-level design to determine if they will interoperate with the legacy hardware and components that may remain in the network.

If interoperability issues are found, make recommendations for resolution and the associated testing.

This task may include proof-of-concept testing for selected low-level design features to validate that the low-level design can be accepted into the current environment. This proof-of-concept may come in the form of a desktop pilot as a prototype of the solution.

2. Finalize Detailed Design Documents:
Consolidate all the detailed design components including hardware, software and support. Prepare the LLD documentation for customer presentation.

3. Conduct Internal Detailed Design Review:
Circulate the LLD within your internal team for quality assurance prior to presenting to the key decision makers.

Ensure all information has been captured accurately to start preparation for the Implement phase.

If needed, the internal team can identify any outstanding design considerations and mitigate them through risk analysis.

Step 4: Present Low-Level Design to Primary Decision Maker for Acceptance

Arrange a solution acceptance meeting between you and the customer. Present the final low-level design (LLD) to the customer's decision maker.

Tasks Required for this Step

1. Obtain Customer Solution Acceptance:
Present a letter of understanding to the decision-maker.

The letter of understanding acknowledges that the proposed LLD has been accepted and that partner has satisfactorily completed the Design phase and engagement obligations per the SOW.

2. Obtain Purchase Order from Customer:
Use your standard sales process to obtain the purchase order and enter information into your order processing system.

IMPLEMENTATION

In the Implement phase, customers are concerned with introducing IPT solutions into the network with the least amount of disruption and the highest level of interoperability with the existing network.

During the implementation, partners provide project planning, management and communication, staging, installation, and configuration of solution elements. They also create and execute test plans to verify that the solution is deployed in accordance with the low-level design. In addition, partners train operations staff and users, and transfer responsibilities to the operations group.

The first four steps of the Implement phase (ordering equipment, planning the implementation, monitoring and controlling the project, and preparing the site) are usually completed prior to the beginning of implementation of an IPT solution.

These steps are critical to implementation, and partners are advised not to bypass any of them.

Implement Phase
Choose a Step for IP Telephony
Step 1. Order Equipment
Step 2. Implementation Planning
Step 3. Project Monitor and Control
Step 4. Site Preparation
Step 5. Install and Configure
Step 6. Test and Acceptance
Step 7. Knowledge Transfer
Step 8. Close-out

Step 1: Order Equipment

Use your standard ordering process to order IPT telephony hardware and software from Cisco.

Cisco order entry systems provide room to specify ship to information. Clearly identify the individual at the implementation site who will receive the ordered hardware and software.

After placing your order, be sure to keep track of your orders by inventorying all equipment as it arrives in addition to adding a tab label to every box as to which location (building/floor/cube) the equipment will reside. You should also secure a staging area that can be locked and accessed only by the implementation team. Finally, be sure and inform the Project Manager to schedule outages as to when the equipment will be installed.

1. Order Hardware and Software:
Use existing ordering processes to order the hardware and software identified in the Bill of Materials and obtain exact pricing.

Resource	Type	Format	Technology
Equipment Order Log	Template	doc	Baseline

2. Order Software and Hardware Support:
Use existing ordering process to order hardware and software support appropriate for the items detailed in the Bill of Materials.

Step 2: Implementation Planning

In planning the implementation, clarify the plan established in the Design phase that covers management of equipment, power and grounding, hardware procedures, and customer implementation expectations and confirm the expectations for the installation. Detail expected traffic flow and vulnerability points of the network and consider these points for testing.

Tasks Required for this Step

1. Hold Implementation Planning Meeting:
The implementation team (which typically includes project managers, engineering managers, design managers, and sales and service account managers) meets with the customer project-team members to discuss the implementation. This meeting provides team members and the customer a forum for confirming timeframes and decision-making processes.

Discuss and create a plan for completing the following Implement-phase considerations:

- Design confirmation
- Implementation plan
- Migration/integration strategy
- Solution acceptance testing
- Proposed installation dates and caveats
- Customer to-do list

- Customer change control process
- Roles and responsibilities, including issue resolution strategy, escalation procedures, and management briefing

Resource	Type	Format	Technology
Network Implementation Plan Template	Template	doc	Baseline
Project Meeting Minutes Template	Template	doc	Baseline
Project Status Report	Template	doc	Baseline
Project Jeopardy Report	Template	doc	Baseline
(Cisco Press) The Complete IPT Migration Planning guide -- How Cisco Systems Migrated from PBX to IP Telephony	Book for Purchase	hard copy	IP Telephony
Implement Work Plan	Template	mpp	IP Telephony
Clarus Systems - Acceptance Testing Planning	Guide	pdf	IP Telephony

2. Develop Response and Escalation Plan:
Work with the implementation team to define the trouble-response plan that includes escalation procedures. This plan articulates roles and responsibilities of the customer, partner and other vendors in the event a problem is encountered during the implementation. It also articulates best course of action for each member of the team in the event the responsible party does not respond.

Communicate the trouble-response and escalation plan to the entire team prior to the start of implementation.

3. Verify Customer To-Do List and Action Plan:
The project manager and the customer task owners meet to review the customer to-do list. This list verifies completeness of actions items and ensures agreement with completion dates. In addition, the project manager and the customer should meet frequently so that tasks are completed and delivery dates are met.

4. Prepare Installation Documentation:
Create site-specific installation guidelines for the implementation team. Refer to this documentation while implementing the hardware and software at the customer site. The guideline should be kept as brief as possible. Describe what needs to be installed and which network points should be tested. Don't describe how to install the hardware and software. The guideline should reference product-specific installation guides for descriptions on how to install.

These guidelines will help in managing timelines for implementing equipment and scheduling outages. Include the installation schedule, as well as the test plan in order to verify that the operation conforms to the design objectives.

A change control process must also be established and adhered to if any part of the implementation needs to change.

Resource	Type	Format	Technology
Low-Level Implementation Plan	Template	doc	Baseline
Access Cisco's Deployment Kit containing populated templates and detailed case studies for this task			

Step 3: Project Monitor and Control

Establish processes for reporting status, managing change, resolving issues, and controlling quality in order to monitor progress, mitigate risk, and safeguard project health

Tasks Required for this Step

1. Status Reporting:
Help ensure stakeholders awareness of project status by working with the customer to designate the structure and frequency of status reports. If needed, there should also be predefined status meetings (i.e. weekly, bi-weekly) with core team members and other necessary participants.

Resource	Type	Format	Technology
Project Status Report	Template	doc	Baseline
Project Jeopardy Report	Template	doc	Baseline
Project Meeting Minutes	Template	doc	Baseline

Access Cisco's Deployment Kit containing populated templates and detailed case studies for this task

2. Change Control:
Help the customer develop a change-control process to mitigate deviations from the intended design.

The process should accommodate changes critical to the implementation.

Use change-control forms as well as change control applications that the customer may use in order to facilitate this process, and document opportunities for post-implementation enhancements.

Resource	Resource Format	Type	Technology
Change Control Request	Template	doc	Baseline
Access Cisco's Deployment Kit containing populated templates and detailed case studies for this task			

3. Issue and Risk Management:
Establish lines of communication to highlight risk surrounding the implementation and the proper channels for issue resolution.

Resource	Type	Format	Technology
Technical Issues Log	Template	xls	Baseline
Project Jeopardy Report	Template	doc	Baseline
Project Control Register	Template	xls	Baseline
Access Cisco's Deployment Kit containing populated templates and detailed case studies for this task			

4. Quality Control:
Build in mechanisms for quality control throughout the implementation. Monitor implementation milestones to verify that the designed solution is being properly implemented. Quality control during the implementation involves activities such as verifying that the correct solution components are properly integrated and configured, and that version control processes are in place.

Quality control may be monitored during milestone checkpoint meetings with the customer stakeholders.

Resource	Type	Format	Technology
Project Control Register	Template	xls	Baseline
Access Cisco's Deployment Kit containing populated templates and detailed case studies for this task			

Step 4: Site Preparation

Prior to installation, it is imperative to conduct a thorough site survey and assess the state of readiness of all infrastructure components, as well as:

- Equipment room readiness
- Power, grounding, and HVAC
- Conduit, cabling, patch panels, and racks
- Access control to physical plant
- Demarc for Telco Services
- Ensure existing network is functioning and stable
- Identify any existing security penetration points
- Ensure that a plan exists to transition from the existing system to the new systems.

Tasks Required for this Step

1. Validate Site Specification:
Refer to the site requirements specification developed in the Plan phase and identify any gaps.

Address gaps by generating a site verification to-do list that outlines actions required for resolution.

Resource	Type	Format	Technology
Site Requirements Specification Template	Template	doc	Baseline
Access Cisco's Deployment Kit containing populated templates and detailed case studies for this task			

2. Complete Site Survey:
Refer to the implementation plan to develop a complete floor plan showing the location of all components, including set and jack locations. For an IPT installation, the project manager should obtain a customer sign-off regarding the floor and cutover plans. The floor plan can also be used for E911 emergency response location (ERL) layouts.

Resource	Type	Format	Technology
Site Survey Form	Template	doc	Baseline
Advanced Site Survey Template (use with matrix below)	Template	doc	Baseline
Advanced Site Survey Matrix	Template	xls	Baseline

3. Prepare Site:
Work with the customer to prepare the site to receive the solution equipment for installation. This may include ensuring the staging area is clear and scheduling the delivery of the equipment to the customer site.

The project manager finalizes scheduling of outages for the time period during which the equipment will be installed.

Resource	Type	Format	Technology
(Cisco Press) The Complete IPT Migration Planning guide -- How Cisco Systems Migrated from PBX to IP Telephony	Book for Purchase	hard copy	IP Telephony

4. Verify Site Survey:
The implementation manager validates that site surveys completed in earlier phases are still valid and that the site confirms scheduled receipt of the equipment. In addition, any gaps in the site specification must be resolved to ensure successful installation.

Step 5: Install and Configure

The engineer stages the equipment, confirms operability, and then installs and configures the equipment at the customer site.

This step entails staging, installing, and testing equipment; resolving installation issues; re-testing, user migration, and acceptance.

Tasks Required for this Step

1. Stage Equipment:
Inventory all equipment as it arrives. Label every box indicating the building, floor, room, rack number, and location in rack when available.

Secure the equipment in a locked staging area that can be accessed only by the implementation team.

Stage the network to:

- Maximize the efficiency of the implementation process
- Assess the network configuration prior to rollout
- Identify any faulty components
- Ensure components are ready for operation
- Demonstrate that the network equipment has been correctly configured and operates in a manner that will enable the customer to accept that the network can be rolled out as a working system

Staging incorporates all of the major design features that exist in the network design document.

Staging assessments should include basic equipment hardware testing, network-level connectivity testing, and network service-type functionality testing.

The staging assessment results may be used as a benchmark for similar acceptance testing that will take place during site installation.

Once staging is complete, equipment assets should be tagged, repacked in the staging area, and then deployed to the landing site for installation.

Resource	Type	Format	Technology

Implementation Record	Template	doc	Baseline
Staging Center to Customer Site Shipping	Template	doc	Baseline
PDI Help Desk	Guide	url	IPT

2. Install Equipment and Server Software:
Receive the hardware and software for installation at the final landing site and position it as directed in the deployment plan detail.

Resource	Type	Format	Technology
Interoperability Check - IP Communications Systems Test	Guide	Website	IPC
Interoperability Check - Cisco Interoperability Portal	Guide	Website	IPC
Low-Level Implementation Plan	Template	doc	Baseline
Implementation Record	Template	doc	Baseline
Access Cisco's Deployment Kit containing populated templates and detailed case studies for this task			
PDI Help Desk	Guide	url	IP Telephony

- Additional Subtasks Related to this Task

Install Switches and Routers
Install the Voice Gateway
Install Convergence Server(s) and/or Integrated Communications
Install Telephony Software
Deploy and/or Place the Cisco IP Phone

3. Load, Configure, Integrate and Test Client Software:
Configure any software supporting the application portion of the solution as required.

Integrate the software with any other applications.

Test the software in the implementation environment.

Details of this task vary among technologies.

Resource	Type	Format	Technology
Bulk Administration Tool User Guide	Guide	url	IP Telephony
Clarus Systems - Automated Design Validation and Testing	Guide	url	IP Telephony
PDI Help Desk	Guide	url	IP Telephony

- Additional Subtasks Related to this Task

Load and Configure Third-Party Telephony Software
Configure the E911 Solution
Integrate with Voicemail
Integrate with Other Cisco Applications

4. Network Implementation Plan Acceptance:
Receive formal or informal acceptance from the customer confirming that the solution has been implemented according to plan. Acceptance verifies satisfaction with the equipment installation, installation testing, and issue resolution.

Resource	Type	Format	Technology
Network Implementation Plan Acceptance Certificate	Template	doc	Baseline
Access Cisco's Deployment Kit containing populated templates and detailed case studies for this task			

Step 6: Test and Acceptance

The field engineer tests and documents the solution to prepare for solution acceptance. Specific test scripts are run and compared against expected results. Performance testing is compared against the expected norm. Any variability in network performance is noted and

addressed. Access and identification control is tested against expected parameters. Once this is complete the network is accepted as ready to use by the customer.

Tasks Required for this Step

1. Test the Solution:
The customer, project manager, and implementation lead review the agreed-upon test and acceptance plan deliverables and assess the system.

Assessment objectives include:

- Prove that each piece of equipment, and the network as a single entity, are operational and manageable
- Verify that each site is operational and ready to be brought online

Provide resources at the customer's site (or online) to monitor the systems as issues arise and to take and resolve trouble calls.

Resource	Type	Format	Technology
Guide to Implementation Acceptance Test	Guide	url	Baseline
Network Ready for Use Process	Template	doc	Baseline
Test Plan Template	Template	doc	Baseline
Access Cisco's Deployment Kit containing populated templates and detailed case studies for this task			
ClarusIPC Assurance Automated Acceptance Testing	Guide	pdf	IP Telephony

2. Conduct Pre-Launch Test:
Select a site where the implementation execution can be benchmarked against the system design in a relatively low-risk environment (such as a site with non-critical users).

Increase the rollout pace once the environment variables stabilize and the implementation rollout process is solid. Using this incremental approach, you can move to the next phase of the migration with minimal risk.

Resource	Type	Format	Technology
Lessons Learned Report	Template	doc	Baseline

3. Network Ready For Use Acceptance:
Once the testing of the implemented solution yields satisfactory results in the production environment, the customer should provide you with a signed acceptance letter acknowledging:

- That the network is ready for use
- Acceptance of the integration of the physical and logical solutions into the production environment
- Satisfaction with production testing and issue resolution

Begin transition of the network to the customer's operations team once the signed acceptance letter is received.

Resource	Type	Format	Technology
NRFU Acceptance Certificate	Template	doc	Baseline
Access Cisco's Deployment Kit containing populated templates and detailed case studies for this task			
ClarusIPC Assurance Certification Report	Guide	pdf	IP Telephony

Step 7: Knowledge Transfer

Prepare to complete the Implement phase by ensuring the customer's system administration team and end users obtain the knowledge to realize the benefits of the solution.

Tasks Required for this Step

1. Train the Administrator:
Train the customer administrators to support the solution per the training strategy outlined in the Design phase.

Resource	Type	Format	Technology

2. Perform End-user Training:
Train the end users as detailed in the training strategy that was outlined in the Design phase. It is important to train network administrators and support personnel on key components of the IPT Solution. Making sure that the customer's employees (especially the administrative assistant staff) know how to use the phones and the features of the new systems has a big impact on how well they accept the new system as well as their ongoing satisfaction. Cisco offers several certification programs and training programs for customers.

Resource	Type	Format	Technology
Online Training Guide	Guide	url	IP Telephony
Cisco IP Phone Tutorial	Guide	url	IP Telephony
IP Phone Training Collateral	Website	url	IP Telephony
7960 IP Phone at a Glance - How to use Guide	Guide	pdf	IP Telephony

3. Establish Day 1 Support:
The project team prepares the response plan and logistics that will allow the customer to respond to support requests on the day of the solution launch and immediately thereafter. A clear escalation plan should be in place for the routing of trouble requests, including a FAQ document to handle routine questions.

Assist the customer in determining which service level agreements (SLAs) are needed with vendors and users of the systems.

Consider negotiating an agreement to provide some of this support or service as second-level escalation support.

For an IP telephony solution, this may include having spare phones available.

Resource	Type	Format	Technology
Technical Issues Log	Template	xls	Baseline
Lessons Learned Report	Template	doc	Baseline

4. Hold Cisco TAC or Day 2 Handoff Meeting:
The project manager leads a meeting that covers the following:

- Day-2/TAC benefits and limitations
- How to, when to, and who should engage day-2 support
- What to do prior to calling day-2 provider (day-1 onsite support activities)
- Design considerations unique to the customer's solution to communicate to TAC
- Which as-built documentation to have available

Resource	Type	Format	Technology
Day 2 Handoff Meeting Agenda	Template	doc	Baseline
Day 2 Provider Letter of Understanding	Template	doc	Baseline
TAC Handoff Best Practices	Guide	url	Baseline
Technical Assistance Center (TAC) Overview	Guide	url	Baseline

Step 8: Close-out

Assist the customer's transition to operations, by:

- Providing documentation describing lessons learned
- Highlighting the customer's unique design considerations
- Introducing the Cisco Technical Assistance Center (TAC)
- Obtaining the customer's acceptance letter if it was not already provided

Tasks Required for this Step

1. Perform an Internal Review to Determine Lessons Learned:
The project team should review the lessons learned with the team and modify any templates or process to help improve the next installation.

Resource	Type	Format	Technology
Lessons Learned Report	Template	doc	Baseline

2. Create Support Transition Documentation:
Create documentation for the customer that highlights features of their day-2 support and helps the customer's system administrator understand how to interact with the TAC.

This final network documentation should reflect "as built" information indicating customer-specific design requirements and configurations, and identify a Cisco TAC point of contact while providing final network documentation.

Resource	Type	Format	Technology
TAC Transition Document	Template	doc	Baseline

3. Project Acceptance:
Present the customer with a letter of acceptance. The letter of acceptance acknowledges that:

- The solution has been implemented per the customer acceptance criteria.
- The partner has fulfilled the engagement obligations and the Implement phase is complete.

Schedule a follow-up meeting with the customer in 30 days to ensure customer satisfaction.

Resource	Type	Format	Technology
Project Completion Certificate	Template	doc	Baseline
Partner Access onLine (PAL) - Customer Satisfaction Survey	Website	url	Baseline
Project Completion Report	Template	doc	Baseline

OPERATE

In the Operate phase of an IP telephony solution, customers want to be sure that products operate efficiently and remain highly available.

Take advantage of a variety of service and support opportunities in the ongoing operations and management of the IP telephony system.

Operate Phase
Choose a Step for IP Telephony
Step 1. System Management
Step 2. Change Management
Step 3. Performance Management

Step 1: System Management

Assist the customer in developing processes to manage the system in ongoing operations mode, including system administration and backup, asset management, and scheduled maintenance.

Tasks Required for this Step

1. Administer and Backup System Components:
Assist the customer in developing procedures to back-up system components, including servers, operating systems, telephony applications (including dial plans), software, databases, gateways, switches, and routers.

Test recovery from backups on a scheduled basis.

Resource	Type	Format	Technology
Cisco CallManager Administration Guide, Releases 3.0(x)	Guide	url	IP Telephony

2. Manage the Assets:
Assist the customer in establishing a database of record to enable quick, restricted access to inventory information for:

- Hardware components (models, versions, and capabilities)
- Software (version and release warranty information such as dates, entitlements, and processes)
- Service contracts (dates, entitlements, and processes)
- Maintenance information (schedules, actions, and results)

Maintaining good records of system components is vital to an effective network management operation.

3. Perform Routine Maintenance:
Advise the customer of the processes associated with scheduled maintenance of systems components and software updates to ensure sound operational practices.

The scheduled procedures should be benchmarked against a log of actual executed procedures.

Verify that the Network Operations Center (NOC) understands which logs should be monitored for each IPC product and which resources are available to explain recommended actions for items appearing on the logs.

Resource	Type	Format	Technology
Cisco Voice Log Translator	Tool	zip	IP Telephony

4. Manage System Trouble:
This is another core Network Operations Center/Customer Response Center responsibility. Guides, tools, training, and experience are required for success.

In addition to troubleshooting and resolving problems, NOCs should provide a mechanism for tracking each incident and ensuring a satisfactory resolution. Usually the same tool for tracking MACs (moves-adds-changes) is used for tracking issues, and the same tool for cost accounting for MACs is used in this area.

A key entitlement of Cisco service and support contracts is access to the Cisco TAC.

The Cisco TAC has the skills and capabilities to assist customers and partners in resolving the most complex issues. Determine priority level of problem and access impact on customer's network, (P1, P2, P3). Follow established escalation procedures for level 3 support from Cisco TAC.

These contracts also provide for the replacement of hardware. Contract options provide for the delivery of replacement parts 8 x 5 x Next business day, 8 x 5 x 4 hours, 24 x 7 x 4 hours, and 24 x 7 x 2 hours.

Cisco SMARTnet Onsite also provides a certified technician to install the replacement part. Every hardware component should have a Cisco SMARTnet contract, and every software product should have software application support.

Resource	Type	Format	Technology
SAS/U	Website	url	Baseline
SMARTnet	Website	url	Baseline
Shared Support	Website	url	Baseline
TAC Case Collection Tool	Website	url	Baseline
IP Security Troubleshooting - Understanding and Using debug Commands	Guide	url	Baseline
AVVID Voice IP Remote Operations Support Guide	Guide	pdf	Baseline
Technical Assistance Center (TAC) Overview	Guide	url	Baseline
Cisco Voice Log Translator	Tool	zip	IP Telephony

5. Maintain System Security:
Confirm that all security policies have been acceptably implemented according to the requirements and set up ongoing monitoring processes to identify any new security issues.

Emphasize to the customer that sufficient security of networks, servers, software and data is essential and is an ongoing process.

For more detailed information about providing Security to the network, visit the Steps to Success for Cisco Network Security and VPN Solutions

Resource	Type	Format	Technology
SAFE Blueprint	Website	url	Baseline
Cisco IP Communications Security Executive Overview	Guide	url	IP Telephony
SAFE: IP Telephony Security in Depth	White Paper	pdf	IP Telephony
Cisco IP Telephony Solution Reference Network Design	Guide	url	IP Telephony
Cisco IP Telephony Operating System, SQL Server, Security Updates	Guide	url	IP Telephony
Cisco CallManager Notification Tool	Tool	url	IP Telephony
Installing Cisco Security Agent 4.0.1.539-1.1.3 for Cisco CallManager Releases 3.2(3) & 3.3	Guide	url	IP Telephony
Installing and Configuring the Cisco IDS Host Sensor on Cisco CallManager Versions 3.3, 3.2, 3.1, and 3.0	Guide	pdf	IP Telephony
Using McAfee NetShield with Cisco CallManager	Guide	pdf	IP Telephony
Using MacAfee Virus Scan with CCM 3.3(3)	Guide	pdf	IP Telephony
Using Symatec AntiVirus with CCM 3.3(3)	Guide	pdf	IP Telephony

6. Maintain Emergency Services (E911):
Your Emergency Services (E911) Solution is an important function that should be tested continuously and validated as MAC's are conducted. The type of deployment, location and the number of buildings involved all affect the criteria used to design and implement 911 services.

Resource	Type	Format	Technology
IP Telephony for CallManager 3.3 (Emergency Services Chapter page 133)	Guide	pdf	IP Telephony

Step 2: Change Management

Assist the customer in determining how to manage and perform system changes, and integrate them into the operational environment.

Recognize that system changes can be challenging for a customer's operations, and offer to assist the customer in planning for future upgrades and defining the overall change management process.

Tasks Required for this Step

1. Plan and Perform Product Upgrades:

Upgrade products for the customer or work with the customer to make sure that they have sufficient skills to upgrade products themselves.

Monitor announcements of upgrades and new releases and discuss with the customer whether to apply them and what the costs would be.

Emphasize the importance of version release control, especially if the customer has multiple sites or servers. If possible, plan to perform upgrades based upon scheduled maintenance windows. Be sure to follow backup, rollback, and recovery strategy.

Resource	Type	Format	Technology
Interoperability Check - IP Communications Systems Test	Guide	Website	IPC
Interoperability Check - Cisco Interoperability Portal	Guide	Website	IPC
Cisco CallManager Notification Tool	Tool	url	IP Telephony
Cisco Product Upgrade Tool	Tool	url	IP Telephony
Software Upgrade Checklist	Template	doc	IP Telephony
Support for Managing a Software Upgrade	Website	url	IP Telephony
Technical Issues Log	Template	xls	IP Telephony
Lessons Learned Report	Template	doc	IP Telephony
ClarusIPC Assurance Change Management Testing and Validation	Guide	pdf	IP Telephony

- Additional Subtasks Related to this Task:

Develop Processes for Moves, Adds, and Changes (MACs)
Perform MACs
Perform Post-MAC Help Desk/NOC Functions
Conduct MAC Knowledge Transfer

Step 3: Performance Management

Assist the customer in identifying best practices to monitor system performance and respond to trouble reports.

While assisting the customer with performance management, watch for opportunities to assist in addressing network optimization needs as well.

Tasks Required for this Step

1. Plan and Perform Product Upgrades:
Upgrade products for the customer or work with the customer to make sure that they have sufficient skills to upgrade products themselves.

Monitor announcements of upgrades and new releases and discuss with the customer whether to apply them and what the costs would be.

Emphasize the importance of version release control, especially if the customer has multiple sites or servers. If possible, plan to perform upgrades based upon scheduled maintenance windows. Be sure to follow backup, rollback, and recovery strategy.

Resource	Type	Format	Technology
Cisco CallManager Notification Tool	Tool	url	IP Telephony
IP Telephony Solutions Upgrade and Configuration Document Guide	Solution Guide	pdf	IP Telephony
Cisco Product Upgrade Tool	Tool	url	IP Telephony
Software Upgrade Checklist	Template	doc	IP Telephony
Overview of New Features	Video on Demand	url	IP Telephony
Support for Managing a Software Upgrade	Website	url	IP Telephony
Technical Issues Log	Template	xls	IP Telephony
Lessons Learned Report	Template	doc	IP Telephony
ClarusIPC Assurance Change Management Testing and Validation	Guide	pdf	IP Telephony

Additional Subtasks Related to this Task:

Develop Processes for Moves, Adds, and Changes (MACs)
Perform MACs
Perform Post-MAC Help Desk/NOC Functions
Conduct MAC Knowledge Transfer

OPTIMIZE

Once the IP telephony solution is up and running, it is important to keep it functioning as efficiently as possible and with high availability, while resolving problems quickly as they arise. Evaluate the customer's network design to determine if opportunities for optimization exist. Review the output to assess whether the solution maximizes the desired business results. When significant deviations are identified, offer optimization recommendations for the current solution, to minimize or eliminate impacts and to maximize business results delivery.

Optimize Phase
Choose a Step for IP Telephony
Step 1. Optimization Planning
Step 2. Optimization Execution

Step 1: Optimization Planning

Once the customer stabilizes the operational solution, work with the client to identify and prioritize system improvements. Optimization can generally be defined as post-installation services that are not under a remote or onsite maintenance contract including, but not limited to: performance audits, major software/hardware upgrades, and applications development. The main goal is to assess new business functionality gaps between solution functionality and apparent business gaps.

Tasks Required for this Step

1. Establish Optimization Process:
Help the customer establish an optimization process for identifying areas for improvement under the optimization guidelines.

If these guidelines are not clearly defined, determine what optimization means to the organization and its goals. Guidelines should include best practices around the backup, rollback, and recovery strategy, software and hardware upgrades and system maintenance improvements.

2. Evaluate Optimization Needs:
Help the customer manage the findings that emerge from the optimization process. Process output may be in the form of an issue log.

Evaluate the impact of the issues relative to the customer's goals.

3. Identify Opportunities for Optimization:
Help the customer assess the effort and benefits related to specific optimization opportunities. Determine the business value of optimizing the existing system. Provide value by working with the customer to build the financial justification for optimization and propose the plan for execution.

Resource	Type	Format	Technology
Cisco Network Investment Calculator	Tool	url	Baseline

Step 2: Optimization Execution

As optimization opportunities emerge during the system operations, the customer can be assisted in planning and implementing enhancements, which will take the solution to the next level.

Tasks Required for this Step

1. Devise Optimization Solutions:
Once the customer decides to pursue optimization opportunities, present the solution alternatives to meet the optimization goals. These alternatives can be rooted in technology and/or process improvements to meet the operational and business objectives. Include the high-level implementation plan for the viable solution approaches.

2. Test the Optimization Solution:
After the customer makes the final decision for the optimization approach, build and test the solution in a test environment that models the production environment. The customer will then conduct user testing to validate the design and their expectations of the optimization implementation.

3. Perform Optimization:
Upon confirming a successful test of the optimization approach, move forward with implementing the solution in the production environment. This task essentially mirrors, on a smaller scale, the deployment plan of the Implement phase, including site preparation, staging/install of any new equipment, configuration, integration, and acceptance testing of the solution.

4. Conduct Optimization Knowledge Transfer:
Hand off the optimization implementation to the system administrator given a successful implementation. Based upon the scope of the improvement, there may be opportunities to assist with any re-training effort and documenting lessons learned for future initiatives. This completes with the final customer acceptance of the optimization.

Resource	Type	Format	Technology
Technical Assistance Center (TAC) Overview	Guide	url	Baseline