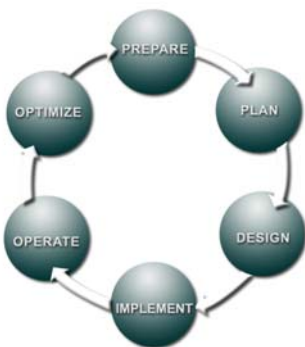**CISCO SYSTEMS**

Cisco Services for Mobile Operators

Cisco® Services support mobile operators in making the smooth migration to IP next-generation networks. With IP next-generation networks, mobile operators can improve their network efficiency, enhance service creation capabilities, accelerate time to market for new 2.5/3G services, and reduce total cost of ownership.

Challenges

To remain competitive, mobile operators are tasked with building the most scalable, available, and flexible converged packet infrastructure available today. In order to improve the delivery of existing services, enter new markets, deliver new 2.5/3G services, and manage costs, mobile operators require an innovative, converged infrastructure.

To meet these challenges, Cisco Systems® offers a vision of a converged IP-based network for data, voice, and video services that can be delivered any time, from anywhere, to any device: the IP Next-Generation Network. The Cisco IP Next-Generation Network solution helps mobile operators reduce cost, improve operator efficiency, enhance service creation, and control capabilities. This solution enables operators to deliver innovate new 2.5/3G applications through service-layer elements such as Cisco Mobile Exchange; network-layer elements such as IP core, IP Radio Access Networks (RANs), and wireless access; and operation-layer solutions such as operations support systems (OSSs), security, and IT systems. These solutions give mobile operators greater network flexibility to meet their immediate needs, and help them seize new market opportunities from fixed mobile convergence.

To deploy and operate the Cisco IP Next-Generation Network solution, mobile operators need to receive the appropriate scope of services, throughout the network lifecycle. With the Cisco Lifecycle Services approach, Cisco and its partners can help you deploy a robust, dependable IP Next-Generation Network solution that addresses all aspects of deploying, operating, and optimizing a complex solution and that includes people, processes, and technology.

Solution

To help you mitigate risks, maintain stability and availability, and manage costs, Cisco Services for mobile operators offer expert advice and services for the successful deployment and operation of a Cisco Mobile Wireless IP Next-Generation Network solution.

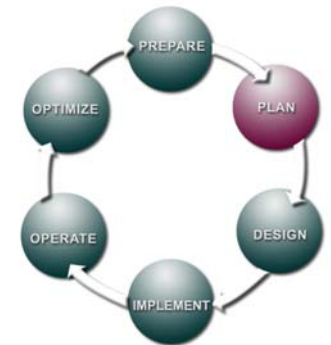### Supporting Business and Technical Requirements Throughout the Network Lifecycle

The Cisco Lifecycle Services approach helps mobile operators accelerate their success with the Cisco IP Next-Generation Network solution. Through a broad portfolio of customizable end-to-end services designed specifically for mobile operators, Cisco and its partners can help you achieve network-related business goals throughout all aspects of deploying, operating, and optimizing a complex solution.

Planning Services

In the plan phase, Cisco recommends services that assess the network and operations to determine if the existing environment can support the proposed change sufficiently and securely. As well, Cisco can establish and execute a project plan to manage the migration and deployment of IP Next-Generation Network solutions. Activities and deliverables in the plan phase might include:

- Planning and design workshop
- Gathering detailed requirements
- Operation assessment
- Network readiness assessments
- Site and environment assessment
- Application integration assessment
- Developing a detailed project plan

These activities result in a high-level design document that includes a comprehensive, customized set of guidelines for designing and deploying a scalable solution that meets your technical needs and business goals. The high-level design also includes a validated bill of materials, network topology, and high-level description of the technology features you will receive.

Design Services

During the design phase, Cisco recommends services that help you develop a comprehensive detailed design to meet business and technical requirements, and create plans to guide implementation-phase activities.

The design phase takes input from the entire scope of requirements discussed previously (services, network, security, and operations) and transparently brings together all elements. The choices made during the network design phase determine whether the network can meet business goals. It is critical to gather all the facts first and approach the design in such a way that any future changes can be made with minimal disruption.

Activities and deliverables in the design phase might include:

- Producing a low-level design
- Developing a staging plan and proof of concept
- Identifying required changes in the existing network
- Developing a migration plan
- Developing an acceptance test plan
- Developing the operation design
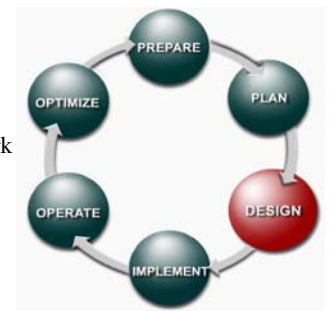
Implementation Services

The goal of the implementation phase is to ensure smooth installation and integration without disrupting the existing network or creating points of vulnerability. Cisco recommends services that stage and test the proposed system to identify and resolve potential system implementation problems. These are followed by services that install and configure system components, integrate them into the operational network/OSS, and validate that the network is working as intended.
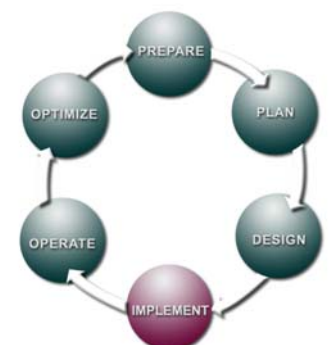
To help you plan your implementation, Cisco and its partners begin by gaining a comprehensive understanding of your requirements and analyzing the potential effect of the proposed implementation on your existing infrastructure and operations. Through an iterative process, they work with you to develop your implementation plan, verifying that it contains the elements required to deploy your solution quickly and successfully. They also work with you to develop your migration and test plans and proactively identify potential risks to help you avoid disruptions in service. A network implementation plan documents the step-by-step process for implementing your Cisco IP Next-Generation Network solution, using an approach that considers all critical elements and helps avoid network downtime.

Cisco provides standby deployment support to quickly address problems that might arise when moving from the test environment to the production environment. This contributes to successful implementation of the new solution and helps you avoid costly delays. Cisco consultants also deliver custom training and knowledge transfer to address any gaps in the technical skills of your network operation staff and to enhance their ability to support the new environment. Activities and deliverables might include:

- Detailed design review
- Network implementation plan
- Assembled floor plan and cutover sheets
- Network staging
- Equipment delivery and physical installation
- Proof of concept/system acceptance test
- Solution validation and interoperability testing with third-party providers
- Application deployment
- Integration with OSS/billing systems
- Documentation
- Training

Operate Services

The operate phase focuses on maintaining the ongoing health of the network and providing the technical support necessary to protect the investment. Operate services manage and resolve problems or changes affecting the system, replacing or repairing hardware as needed, keeping system software and applications current, and making moves, adds, and changes. The two offerings in this phase are:

Cisco SP Base Support

Cisco SP Base support, offered specifically for service providers, offers the first step in providing the support you need to keep your networks up and running. Cisco SP Base support helps improve productivity and increase your operational efficiency by complementing your internal resources with Cisco networking expertise. Cisco SP Base support can help maximize availability and minimize risks for systems running mission-critical applications by delivering:

- Ongoing Cisco Operating System Software updates, allowing you to efficiently evolve your network infrastructure to meet the needs of an ever-changing business environment
- Rapid hardware and Cisco OS Software technical problem resolution with 24-hour global Cisco Technical Assistance Center (TAC) access to an extensive team of expert technical engineers – online or on the telephone
- Knowledge transfer of Cisco expertise, enhancing internal technical skill levels
- Advance hardware replacement, reducing the risk of network downtime
- Registered access to an array of powerful online tools, allowing you to more quickly address common network problems
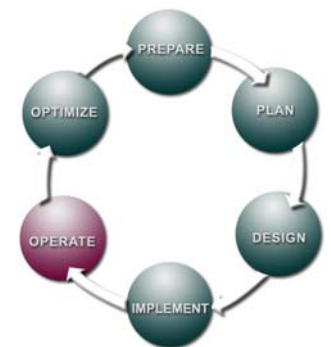
- Around-the-clock access to comprehensive technical information and numerous configuration, installation, troubleshooting, and service request management tools

Cisco Software Application Support Services

Cisco Software Application Support Services provide services and support that enhance the performance of Cisco application software to protect technology investments and keep business productivity high.

Two levels of support are available.

Cisco Software Application Support (SAS) services include:

- Minor and maintenance application releases
- Timely resolution to technical issues with 24-hour access to support
- Access to the Cisco.com Knowledge Base to build in-house expertise

Cisco Software Application Support Plus Upgrades (SASU) is more comprehensive, and includes all of the support services included in SAS plus major application upgrades.

Optimize Services

As the IP Next-Generation Network grows to support more applications, subscribers, and devices, providers must be able to maintain peak performance of their network. The optimize phase aims to achieve operational excellence and improve network availability through proactive services. Optimize phase services help you achieve a network that is adaptable – positioned to cope with new or changing business requirements – and deliver service assurance.

Optimization services can include periodic audits and assessments by Cisco engineers, using advanced tools and expert systems to uncover potential operational and performance issues. Cisco engineers begin by inspecting your network to validate device configurations, identify network congestion, and study software quality issues. They make specific recommendations for changes that can help you prevent network problems, increase availability, and enhance capabilities. Deliverables and activities in this phase might include:

- Operations assessments
- Network assessments
- Software support (for example, perform new feature, configuration, and protocol analysis and recommend the appropriate software level)
- Network change support of existing network
- Ongoing remote design support
- Ongoing application performance assessment
- Ongoing planning and testing of new solutions and applications
- Knowledge transfer session

The network assessment is an essential component of the optimization service. As part of this activity, Cisco engineers may use specialized tools that use proven data collection methodologies to inspect the health of your network; identify and measure the performance, capacity, configuration, and fault parameters on selected devices; compare that data against the baseline; and deliver findings and trends. The information collected by these tools and through other methods helps Cisco engineers make specific observations about your network and recommend changes that can address current problem areas or potential design, capacity, and scalability issues.
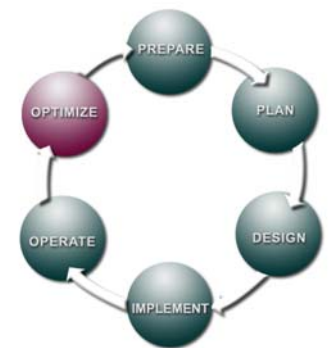
As part of this service, your Cisco team also delivers a report that summarizes the findings and recommendations from the assessments. The report includes an inventory of your network devices, and provides a complete picture of the Cisco software that is running on your network. This helps you to track what is currently on your network, what has been changed, and what performance improvements – and business benefits – have been accomplished.

Benefits

With Cisco Services, mobile operators can smoothly transition to an IP Next-Generation Network, accelerate time to market for new services, and improve network performance to deliver service assurance. Cisco services draw upon leading practices developed through successful mobile deployments around the world. Specifically, Cisco Services deliver the following benefits:

- Help ensure your network's ability to adapt to changing business needs by aligning technology investment with business objectives
- Maximize the value from your investment in an IP Next-Generation Network by enabling maximum availability, stability, flexibility, and scalability
- Accelerate time to market for new services by using proven methodology and practices
- Increase network staff productivity through skills augmentation that reduce errors and rework
- Improve network performance, availability, and security to maintain service assurance

Why Cisco

Cisco Services for mobile wireless operators support the complete lifecycle of your mobile solution. Cisco engineers can help you successfully plan, design, deploy, operate, implement, and optimize your network while mitigating risks, accelerating time to market with new services, and getting the most value from your network investment. When your company deploys a Cisco solution, you receive a consistent services approach and delivery across your entire network, regardless of the network's size or geographic reach.

Cisco Services unite your Cisco team and its partners with processes, tools, and labs to accelerate your success with a mobile wireless solution. These customized services are tailored to your needs and are delivered through an extensive global support infrastructure, which includes our award-winning technical assistance center and an extensive network of certified partners and customer portals. Through this collaboration, you have access to the industry's largest collection of certified IP experts with experience in all phases of deploying and supporting large network infrastructures. With specialized tools, knowledge, methodologies, and best practices, Cisco and its partners are able to deliver value throughout the network lifecycle.

Cisco experience can provide the support and guidance you need to effectively migrate services and customers to your new platform or solution, and to ensure that the network design meets your future needs. Cisco application of its best practices in design and implementation can result in lower cost of ownership, increased stability and availability, and faster service adoption. Throughout the network lifecycle, from the build phase through basic operation support, Cisco can add its expertise in project management and, where necessary, can manage work that has been outsourced to partners.

Cisco Services help networks, applications, and the people who use them work better together.

For More Information

For more information about Cisco Services, visit http://www.cisco.com/go/services/ or contact your local account representative.

CISCO SYSTEMS

Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
      800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

Cisco Systems has more than 200 offices in the following countries and regions. Addresses, phone numbers, and fax numbers are listed on the
Cisco Website at www.cisco.com/go/offices.

Argentina • Australia • Austria • Belgium • Brazil • Bulgaria • Canada • Chile • China PRC • Colombia • Costa Rica
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