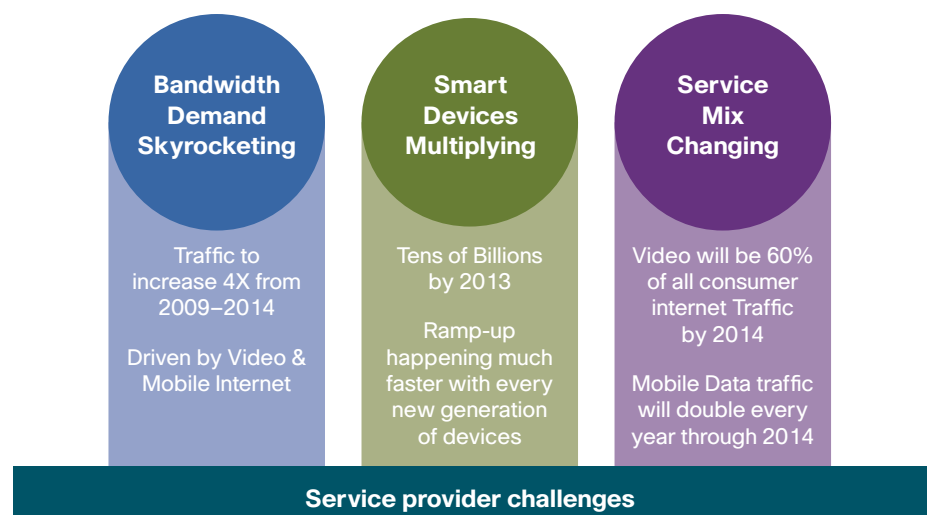# Enabling Service Provider Transformation with Cisco Services

This whitepaper describes the key challenges that service providers are facing in their quest to enable transformation to cater for the needs of the new network generation and identifies solutions that not only overcome the challenges, but can also result in improved operational excellence and business profitability.

Service providers are facing massive challenges to their revenue and profitability—challenges that impact on their strategies and priorities for both business and technical decision makers.

These challenges are characterised within the service provider environment by the need to manage multi-service networks, major growth in traffic, many new services led by Over The Top (OTT) players, a growing number of different types of device to support, accelerating pace of change, and challenges from other sources.

Figure 1. SP Market Dynamics

Bandwidth Demand Skyrocketing

Traffic to increase 4X from 2009–2014

Driven by Video & Mobile Internet

Smart Devices Multiplying

Tens of Billions by 2013

Ramp-up happening much faster with every new generation of devices

Service Mix Changing

Video will be 60% of all consumer internet Traffic by 2014

Mobile Data traffic will double every year through 2014

Service provider challenges

The combination of traffic growth and new services is creating more value in the industry, but that value is going to OTTs, not to service providers. The reality is that access is becoming a commodity with the expectation that services should be free or very low price. For the service provider, the result is that revenue per Gb is falling exponentially against the cost per Gb transported - the growth in traffic is not parallel with the growth of revenue.

In the mobile sector, for example, revenue from voice traffic has been reduced as empowered consumers choose lower-cost communications. At the same time, the growing sophistication of handsets is increasing demand for mobile video and Internet surfing - pushing up costs. However, service providers have not yet been able to monetise that traffic profitably.

So how are business decision makers responding to those challenges and how can vendors help them support both network and business goals? A survey carried out for Cisco Services by Forrester Consulting in May 2010 found that service providers are focused on three overall goals:

· Managing costs

· Improving the customer experience

· Launching new services quicker.

These factors are posing difficult problems that service providers must address. This whitepaper looks at the way Cisco Services is collaborating with European service providers to help them overcome the challenges by enabling the essential network and service transformation and deliver business outcomes that can monetise that traffic growth, optimise their cost, and add further value to their business through innovation and operational excellence.

Figure 2. SP Business Priorities

It is important to recognise that addressing each of the challenges in isolation is not the recipe for success—the challenges are inter-related. It is therefore essential for service providers to take a holistic view and address these issues in a consistent way to achieve real business benefit. Service providers must focus on the bigger picture to enable and accelerate success.

Cost Optimisation - Overcoming Cost Challenges

To survive and build their business for the future, service providers must aim to grow revenue and profit. This is proving to be challenging in a period when existing revenue is under threat from intensifying competitive pressures and difficult economic conditions. As a result, there is an increased focus on costs to maintain margins and price competitiveness.

At the same time, changing customer demands and a dynamic marketplace creates a requirement for more content, higher Quality of Service and greater bandwidth. Service providers must therefore balance cost reduction with innovative new services. Network transformation in collaboration with Cisco Services can be the key to that balance, helping service providers to improve CAPEX efficiency, providing new capabilities, mitigating risk, speeding time to market and moving the service provider to a better price point.

Optimising Capex

Service providers' plans for reducing costs focused on two main areas— optimising CAPEX and reducing OPEX. Most service providers report that it is 'business as usual' for CAPEX, with no pressure to replace CAPEX with OPEX. However, they feel that the CAPEX approval process is now more stringent, requiring higher levels of justification and new sourcing models.

To support the more demanding approval process, the business case should be based on rapid return on investment. Service providers need to create an economic model to demonstrate that.

To develop the business case, service providers need to look at future trends and requirements, assessing the impact they will have on the organisation and identifying how those trends can be leveraged to develop and improve competitive edge. Cisco Services can provide valuable insight, drawing on a number of very sophisticated business cases it has already developed, including sector-specific cases based on market awareness and expertise. In addition, Cisco Services' benchmarking services for network and operations help service providers understand where they are compared with the industry and decide on the right business model to meet their objectives. This type of input can help service providers reduce the time and effort to create a business case, as well as creating a more compelling case.

At all stages of the service provider journey from vision and initial business case to practical implementation, Cisco Services can help by providing expertise, people and tools to mitigate the risk of the project, optimise CAPEX and enable new capabilities. Even when service providers don't have the resources to take on additional growth projects, they can collaborate with Cisco Services to offload certain projects. Norwegian provider Ventelo, for example, collaborated with Cisco Services to stabilise their networks so that they could refocus their people on customer-facing projects without the cost of additional hiring or training.

As well as helping to justify and enable new CAPEX projects, service providers also need to focus on prioritising CAPEX to meet the key objectives of increasing capacity and availability of the network. Cisco Network Optimisation Services (NOS) can help by reviewing the current network health, review the design and architecture, and provide recommendations to help improve the network performance and capacity. The result is improved utilisation from existing investments. Provided the existing infrastructure is capable of handling the emerging traffic demands, sweating assets can transform network capabilities, enabling the service provider to move to a better price point, mitigate risk, and get to market quicker. Cisco Services' assessment-based approach to network optimisation identifies incremental improvements that require comparatively less funding while delivering significant operational and service benefits. Industry experience indicates that a 5% improvement in infrastructure utilisation translates directly to the bottom line as well as increasing capacity and availability.

Reducing OPEX

While optimising CAPEX is regarded as important, as revenue per Gb of traffic declines, it becomes essential for service providers to reduce the cost of the traffic transported. Although high cost per Gb was originally a problem for those mobile operators who did not have an end-to-end IP infrastructure, the problem also impacts fixed-line operators.

OPEX reduction initiatives are targeting a number of key areas:

· Reducing the costs of managing network complexity

· Balancing capacity requirements

· Controlling customer retention costs

· Reducing the cost and impact of outages.

Reducing the costs of managing network complexity

Many service providers face soaring network operational costs driven by three factors:

· Duplication of costs in running multiple networks to support the growing diversity of services

· Costs of managing increasing network complexity to meet changing traffic patterns

· High costs of supporting legacy networks.

Migrating services to a single IP network capable of running multiple services can eliminate the high costs of running multiple dedicated networks To achieve full benefit, service providers need to achieve network transformation within agreed timeframes and budgets. Cisco Services can help service providers by speeding up the migration, and accelerating time to adoption while reducing risk, providing greater predictability and avoiding customer disruption. Cisco Services is able to achieve this through the unique intellectual capital built within their tools, and the decades of experience gained within the service provider environment.

However, as more and more services are deployed, each with their own traffic patterns, even a single network can incur increasing management costs and lower productivity. The focus must therefore be on reducing Total Cost of Operations. Cisco Services can help in two ways:

· By leveraging the intelligence within the network, utilisation levels can be improved

· By helping service providers to automate many processes and simplify operations management.

Legacy networks can prove a drain on service provider resources, incurring high ongoing maintenance costs while they remain operational. Service providers therefore seek to accelerate decommissioning of legacy networks to reduce ongoing maintenance costs. Where legacy networks continue to provide profitable revenue, these should be streamlined and optimised. Cisco Services can help address these challenges with transformational migration services.

Balancing capacity requirements

Growing traffic levels are creating network capacity problems. Too much capacity represents an inefficient use of capital and under-utilised assets. Running lean can lead to outages and an unstable network with the associated costs and impact on customer experience. It can also slow down provisioning of new customers or deployment of new services.

Cisco Services can help with Assurance Services that manage the capacity in the network underpinned by SLAs, as well as getting the best utilisation from existing networks and simplifying the infrastructure. This, in turn, can help to lower the cost per Gb through process and infrastructure improvements.

Controlling customer retention costs

A major challenge for many service providers is the cost of acquiring and retaining customers. With acquisition costs running at a high level, service providers can control and reduce costs by increasing customer retention through improving quality of customer experience and minimising risk when migrating customers to new services.

Customer retention is a particular issue for mobile operators. Mobile subscribers change regularly, so quality of experience and new services are essential to help retain them. However, mobile customers are demanding more bandwidth-intensive services such as e-books and e-newspapers, so it is important to balance customer retention targets against additional bandwidth costs. The massive growth in traffic, especially from video, is putting pressure on network capacity, while the changing traffic patterns create complexity, which can lead to increased outages with an impact on costs and customer churn.

It is clear that service providers need to deal with bandwidth demands by increasing access through investment in technologies such as LTE and fibre. They also need to switch off legacy networks and consolidate multiple networks which are costly to run. However, this presents major risks in terms of customer service. One provider reported that they had suffered a 10% loss of customers as a result of a difficult migration.

> "Purchasing Cisco Network Optimisation Support and High-Touch Technical Support Services was one of the best decisions we've ever made. In fact, we cannot remember the last time we had a serious incident with the core network."
>
> Vidar Moen, Chief Technology Officer, Ventelo Networks

Service providers therefore need to reduce the risk and cost of customer disruption and take better control of costs. Cisco Services can help to minimise the risk and reduce the number and cost of revisits during a migration by taking responsibility for testing, validation, design and implementation through a range of enablement services. This service utilises a set of sophisticated tools that incorporate the intellectual capital built up from Cisco Services' experience of managing network migrations around the world.

A recent Cisco Services engagement with a major service provider that wanted to upgrade their infrastructure showed that they faced the challenge of dealing with many years of old configurations at their Points of Presence. Cisco Services' migration service and custom tools enabled an efficient and safe migration, with minimal impact on customers and major benefits in business agility. It is estimated that the migration efficiencies enabled resource savings of up to 15 man-years.

Reducing the cost and impact of outages

It's also important for service providers to reduce the cost of outages which have a direct impact on customer retention levels, and the scale of SLA penalties that they might be exposed to. Therefore, it is essential to have adequate internal support people, tools and processes to monitor and react to any problems.

To achieve this, operations teams need to maintain service quality, and improve performance and service availability. Cisco Services can help to keep the network optimised with Assurance Services that supporting fault, availability, capacity and performance management with a service underpinned by SLAs. This can help operations teams maintain service quality and improve performance and service availability. This, in turn, directly supports the SLAs between the service provider and their customers, increasing cost avoidance as well as improving productivity.

Cisco Services supports this with a Smart Services strategy. It is no longer appropriate to just rely on break fix support, so Cisco Services has developed proactive services and diagnostic tools that give greater predictability, minimise risk and reduce costs. These services have been developed based on the years of intellectual capital that Cisco Services has developed through experience of providing support services to large numbers of service provider customers.

A study carried out by Forrester Consulting on behalf of Cisco Services illustrates the potential savings. The study amalgamates findings from a number of Cisco Services customers to create a representational composite company. It shows how the composite company achieved a three-year return on investment of close to 200% through a combination of staff savings and cost avoidance resulting from improved network performance.

· Financial losses due to downtime were reduced by 65% through cost avoidance of revenue loss and service restoration, saving over $430,000

· Exposure to SLA penalties was reduced by 80% through network standardisation and improved network monitoring, saving almost $1.5 million

· Staff costs were reduced by more than $1.6 million through faster problem resolution and shorter configuration/implementation times for new projects.

The findings are summarised in the table below.

Benefit	Risk-adjusted, present value
Cost avoidance - lost revenue due to downtime	$436,443
Cost avoidance - SLA penalties	$1,489,724
Staff savings	$1,646,191
Total	$3,572,357
Cisco Professional Fees	($1,203,636)
Total (NPV)	$2,368,721

Improving revenue per Gb

As well as reducing costs, service providers also need to focus on innovation to add value and improve revenue per Gb. Specifically, they need to translate traffic growth into revenue, particularly in sectors like video where bandwidth-hungry services can easily erode margins.

Cisco Services takes a business perspective and can collaborate with service providers to identify opportunities to monetise traffic, improve competitiveness and create value. By helping service providers to monetise traffic and optimise the network for disruptive services like video, Cisco Services can enable service providers to achieve the right balance between cost control and revenue growth. If service providers are launching a new service, Cisco Services can identify the initial costs that will be incurred before the resulting revenue flow, and can help service providers through financing options to schedule repayment to align with their planned resulting revenues.

The launch of new revenue-generating services is described in more detail in a later section of this whitepaper.

Operational Excellence - Improving The Customer Experience

As part of the drive to protect and grow revenue, service providers have set a second overall goal of improving the customer experience. The ability to guarantee levels of service to enterprise, SMBs and consumers is critical to differentiate the service provider from competitors. Cisco Services can help service providers link Quality of Service, security, and the network, to mitigate risk and provide more certain outcomes as the basis for improving the customer experience.

Cisco Services believes that service providers have two major competitive advantages in managing and controlling customer relationships and the customer experience:

· They have a subscriber base, rather than a group of users

· They own the network.

To leverage that advantage, service providers aim to protect their existing base by improving service quality and offering innovative new services while using high-quality services to win new customers.

The experience of Scandinavian service provider Ventelo illustrates the benefits of this two-pronged approach. Ventelo's vision was to be the biggest and best Norwegian telecommunications challenger, by increasing its coverage and customer base. However, operational difficulties caused by merging a number of incompatible networks were diverting the company from its strategic goals. Cisco Services collaborated with the Ventelo team to stabilise the network, which helped to improve the customer experience. It also enabled Ventelo to roll out new revenue-generating services faster and safer, rather than just reacting to internal issues.

Improving service levels to customers

Poor network reliability and frequent outages have a major impact on the customer experience. They make it difficult to guarantee customer SLAs and that can lead to an increase in customer churn. There are also cost implications with the risk of penalty charges and the internal costs of monitoring and maintaining service availability.

Cisco Services has the tools, processes and delivery platforms to help service providers improve service levels and productivity by making networks easier to manage. These tools and processes are aligned with industry standards such as ITIL and eTOM, supporting service providers who want to achieve governance objectives.

"We knew that we needed to take the customer experience to a whole new level. That meant solving a deeper, underlying set of complex operational challenges as well."

Vidar Moen, Chief Technology Officer, Ventelo Networks

"Cisco helped us to evaluate our current status and then work toward, and move through, a logical series of milestones, achieving best practice at each step of the way,"

Per Magne Olsen, Head of Group Procurement, Ventelo Networks.

Figure 3. Cisco IC, Tools & Platform
Greater Predictability to Assure the Outcome
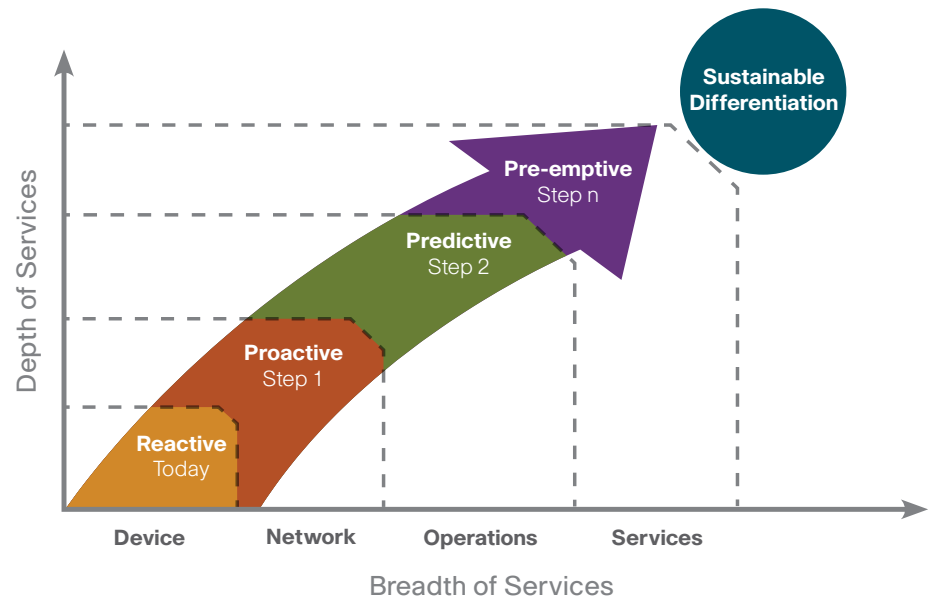
These tools drive predictable performance in complex networks and help to identify and resolve problems before they happen. At the heart of this is Cisco Services' Smart Services strategy that incorporates proactive services to give greater network predictability. Cisco Services has worked with large numbers of customers so can apply intellectual capital to its support tools and help service providers guarantee service levels to their customers.

To assess their own performance and identify opportunities for improvement related to increasing profit, service providers need to benchmark themselves against their peers. Cisco Services has the experience of working with service providers around the world and support benchmarking exercises with identified areas for improvement.

Innovation and Monetisation
- Launching New Services Faster

The third major goal for service providers is to speed up the introduction of new services to protect and grow revenue from existing customers and attract new customers. Although more value is being created in the industry, it is going to OTT providers and not flowing to service providers. The situation is further complicated by the fact that many services are becoming commoditised and customers have growing expectations of free services. With revenues under pressure from competitive activity, service providers must find new pools of revenue such as app stores and TelePresence for both consumer and enterprise markets.

Figure 4. Service Transformation
Complete Offer To Accelerate Time To Market
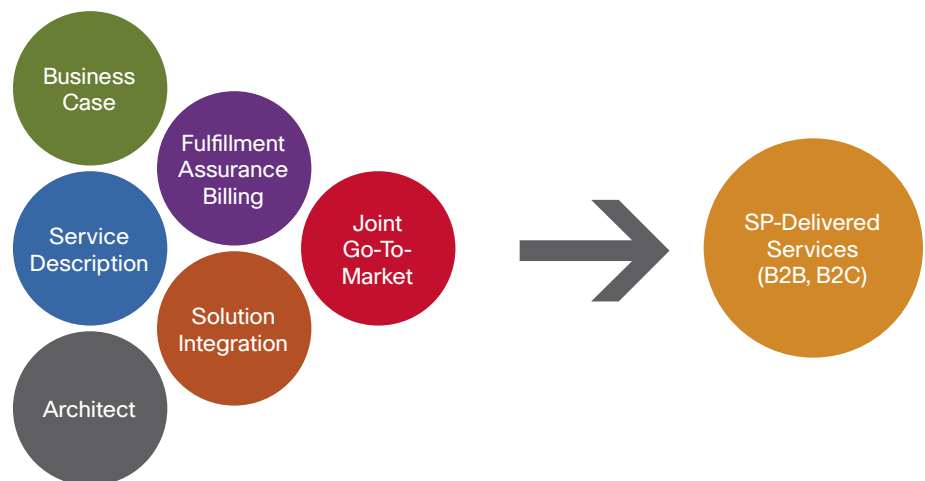
Increase revenue and accelerate growth with new services and monetisation models.

Service providers no longer have a simple revenue model of voice minutes. Instead, they have opportunities to grow their business through a multitude of complex offerings. The challenge for the service provider is being able to determine which offerings would be most effective. To achieve that intelligence requires tools and skills for effective data mining. Cisco Services can help to profile different types of traffic flow as a basis for managing the traffic more effectively and monetising it.

Services transformation is vital, but it involves risk in three key areas:

· **Market risk** – will the new service provide a good return?

· **Operational risk** – has the service provider got the right people, skills, infrastructure and processes to deliver the right quality of user experience?

· **Technical risk** – will it work?

To ensure success, service providers want to share the risks and responsibility with vendors.

Through collaboration, Cisco Services can help service providers become more competitive with OTTs by focusing on strengths such as network ownership, Quality of Service and access to an established subscriber base. By leveraging our experience in the SP market we can also reduce risk at all stages of the service provider journey from vision and initial business case to practical implementation.

Identifying new service opportunities

The first stage is to identify which new services to take to market. Cisco can help with the business case and market validation, looking at future trends and requirements, showing the impact they will have on the organisation and demonstrating how service providers can develop a competitive edge. Cisco Services' business is aligned to strategic service provider markets coupled with an in-depth understanding of enterprise, SMB and consumer video markets. Cisco Services has already developed very sophisticated business cases, including sector specific material based on market insight and expertise and this can significantly shorten the lead-time to prepare a comprehensive, robust business case. Getting to market faster means having the right strategy and with Cisco Services' support, service providers do not have to start from scratch.

In the video market, service providers can draw on Cisco's extensive experience in the sector to introduce added-value services that monetise traffic and overcome the commoditisation of OTT services by building on the competitive advantage of their own network which offers a single point of access to multiple services and consistent end-to-end quality across all services. However, it's important to optimise the network for video traffic because the revenue per Gb of video traffic is low compared to cost. Cisco Services can carry out a video-readiness assessment and implement any changes to ensure the best experience for end users.

There are also attractive opportunities in the mobile sector driven by the massive growth of smartphones. Cisco are able to offer service providers the capability to see what's happening to mobile data traffic in the core, and use that as the basis for enabling solutions that monetise mobile data traffic. That industry knowledge can also prove valuable for service providers who want to enter new markets, bringing service provider staff up to speed so that they can innovate in the market and mitigate the risk of launching new services. This can accelerate time to market and help to ensure success.

Cloud and managed services opportunity

Although OTT providers have made initial inroads in delivering services over the cloud, service providers have the opportunity to offer a range of cloud-based managed services more closely aligned to enterprise needs and standards. By combining the power of the IP Next-Generation Network (IP-NGN) with a virtualised and orchestrated data centre such as the Cisco Unified Services Delivery (USD), service providers can offer production-level capabilities with an end-to-end Service Level Agreement. This is a significant evolution from non-critical test and development environments which OTTs and data centre service providers offer. It enables service providers to reduce their customers' capital requirements and provide them with customised portals that provide a user experience that is closer to the customer's own organisational requirements.

Cisco Services can help service providers develop compelling offers across the range of cloud-based services including:

Infrastructure as a Service comprising::

· Business Continuity

· Cloudbursting

· Compute as a Service

· Desktop Virtualisation

Hosted Collaboration Services comprising:

· Unified Communications as a Service
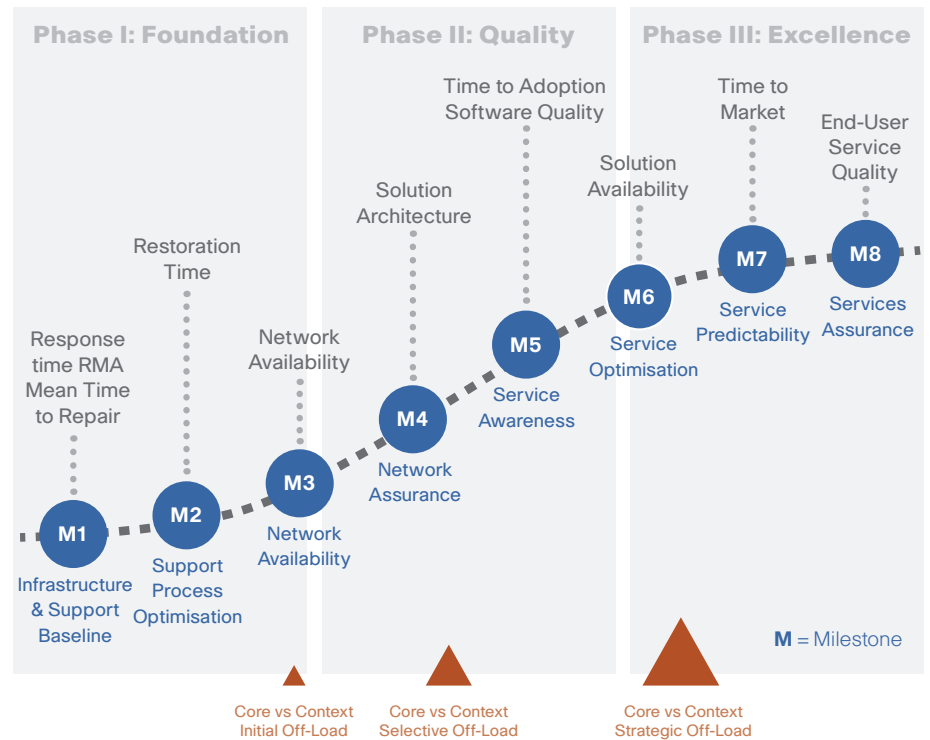
· TelePresence as a Service

· Webex.

Cisco Services can help service providers accelerate new cloud service launches, enabling them to generate revenue faster by reducing time to market, while reducing risk and enhancing the customer experience. As an example, Cisco Services recently helped a major telecoms company to enter the TelePresence market, delivering the solution as a managed service and taking it to an operational level in just nine months.

Identifying new service resource requirements

Service providers have mature, advanced skills in traditional services and technologies. However, if they plan to introduce new services, they will need to make an investment in training and skills enhancement to reach the same level of maturity. This can also extend the launch period, slowing time to revenue. Cisco Services can help overcome resource challenges with a range of assisted options and flexible business models such as Build Operate Transfer, Build Integrate Transfer or hosted/white label services supported by SLAs. Cisco Services can take the lead on implementation then hand operations back, allowing the service provider to build up skills at their own pace while the service is live and delivering revenue. This mitigates the risks of the service launch and takes service provider skills to a higher level of maturity.

By using the Service Assurance Roadmap, service providers are able to benchmark their operations maturity and use Cisco Services to "leapfrog" to higher levels of maturity for new offerings that they want to take to market.

Figure 5. Outcome Based Engagements

Phase I: Foundation

Phase II: Quality

Phase III: Excellence

Time to Adoption
Software Quality

Time to
Market

End-User
Service
Quality

Solution
Architecture

Solution
Availability

M8

M7

Services
Assurance

Restoration
Time

M6

Service
Predictability

Response
time RMA
Mean Time
to Repair

Network
Availability

Service
Optimisation

M5

M4

Service
Awareness

M3

Network
Assurance

M1

M2

Network
Availability

Infrastructure
& Support
Baseline

Support
Process
Optimisation

M = Milestone

Core vs Context
Initial Off-Load

Core vs Context
Selective Off-Load

Core vs Context
Strategic Off-Load

New consumption models

In situations where finance is an issue, new consumption models may be appropriate. These models can reflect the service provider charging model, for example charging per seat per month for hosted communications service. This type of model can enable service launch without requiring CAPEX and can synchronise revenue and expenditure, improving cash flow and budgeting. In one example, a pay per user model enabled a service provider to launch a Unified Communications service without the need for an estimated $80million investment. To develop the new consumption models, Cisco Services works with selected service providers to develop pilot programmes, and then turns the experience into a business model that can be replicated.
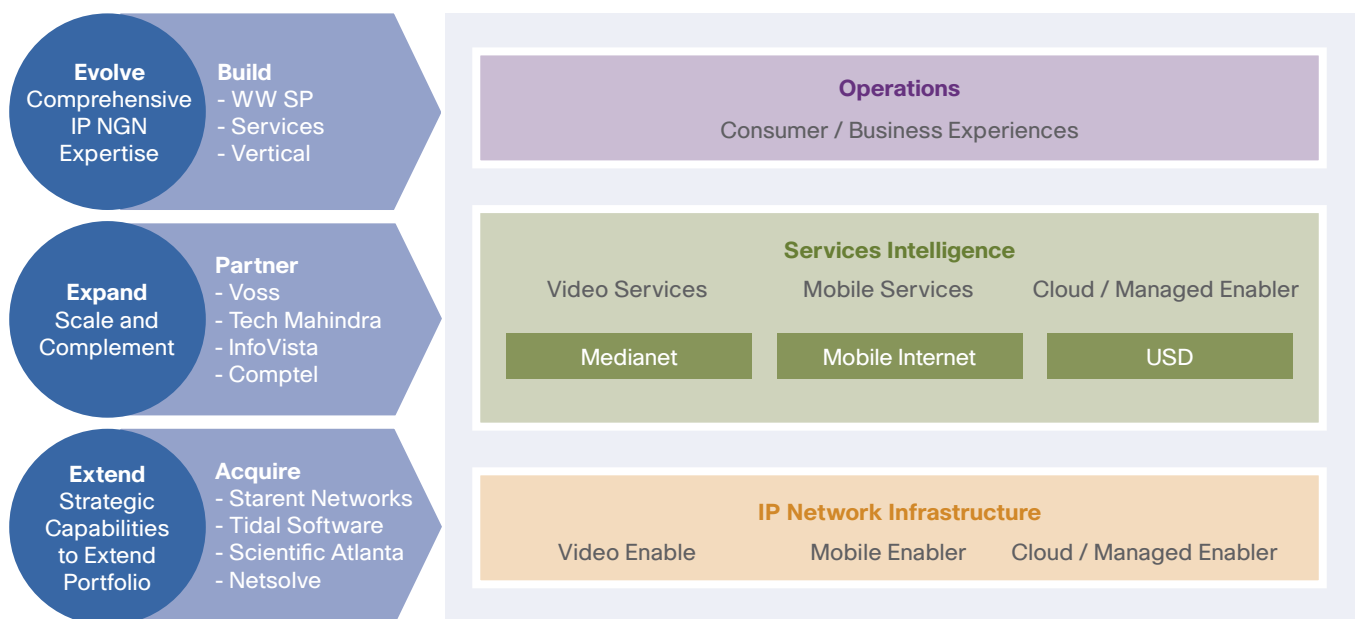
Enabling Business Transformation

Cisco Services brings together the people, processes, tools, and partners to enable and accelerate service providers' success by leveraging their IP NGN architectural platform.

Cisco Services is focused on driving business outcomes through network, services and operational transformation. Through a collaborative approach and tailored engagements,Cisco services can help accelerate time to market, mitigate risk, reduce cost through improving operational efficiencies and help assure the user experience.

Cisco Services' approach and differentiation in services comes from a heritage of network capabilities and a wealth of experience in providing solutions to service providers in all sectors around the world. That is reflected in over 20 years' involvement in the market with services and solutions that are strategically aligned with those of the service provider. Cisco Services has also made a massive research and development commitment to the service provider community, developing innovative roadmaps and solutions to keep the sector ahead of the competition.

Figure 6. Cisco – Services Evolving Capabilities
Build, Buy and Partner for Success

Evolve Comprehensive IP NGN Expertise

Build
- WW SP
- Services
- Vertical

Expand Scale and Complement

Partner
- Voss
- Tech Mahindra
- InfoVista
- Comptel

Extend Strategic Capabilities to Extend Portfolio

Acquire
- Starent Networks
- Tidal Software
- Scientific Atlanta
- Netsolve

Operations
Consumer / Business Experiences

Services Intelligence

Video Services	Mobile Services	Cloud / Managed Enabler
Medianet	Mobile Internet	USD

IP Network Infrastructure

Video Enable	Mobile Enabler	Cloud / Managed Enabler

To help deal with network complexity and optimise their networks for profitable service delivery, service providers can draw on Cisco Services' unrivalled expertise in IP networking and intellectual capital based on managing networks for thousands of organisations around the world. Cisco Services has more than 2900 certified IP experts with experience unmatched in the industry. With strength in depth across the globe, Cisco Services can help multi-national providers offer customers a consistent and predictive standard of service anywhere in the world, regardless of local resources. An ecosystem of certified partners provides essential specialisations to enable end-to-end capability.

Cisco Services' intellectual capital underpins the diagnostic and management tools, processes, delivery platforms and automation that reduce risk and improve service provider productivity by making networks easier to manage.

Cisco Services is uniquely positioned to support service providers meet their networking and business challenges with comprehensive end-to-end solutions that enable service providers to take a holistic approach to business transformation.

Further information

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