Business Transformation Through Architectures

Globalization of the Enterprise

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Corporate Strategy
The world is increasingly becoming connected, and globalization is having a profound impact on the lives of people in both developed and developing regions. The Internet and the power of the intelligent network are enabling CEOs and other corporate leaders to grow their business into new markets, attract the best global talent, and create flexible operations structures to enable growth, improve customer satisfaction, and enhance employee productivity.

Cisco has embraced the globalization trend on various levels. In the last decade Cisco saw numerous advancements in this area, including: more than half of Cisco's business now comes from outside of North America; emerging markets represent the fastest growing segment; Cisco established the Globalisation Centre East in Bangalore; business segments are run by leaders outside company headquarters in San Jose, California. These are just a few examples of how globalization is impacting Cisco.

When Cisco senior executives embarked on taking the company’s globalization strategy to the next level, they saw several opportunities for the business. But it was imperative that these opportunities would be achieved through the right investments while keeping the costs of doing business under control. This goal had to be balanced with increasing employee productivity, which is especially challenging for a company with major business locations in different time zones.

- Grow the business in global locations
- Keep costs (training, travel, systems) of doing business under control
- Increase productivity for employees in global locations
- Minimize exposure to business risks (local regulations, intellectual property, physical safety and security, business continuity due to geopolitical conditions)

Cisco executives expected IT to provide the right technologies that would boost employee collaboration, hence drive productivity up. And again this had to be achieved through IT investments with superior return on investment (ROI) and shorter payback periods that would have a positive impact on profits and shareholder return. Cisco has also evolved its global ecosystem during the past decade, underscoring the need to provide efficient delivery of new business services.

Business Operations and IT Executive Considerations

Organizations are constantly challenged with aligning technology investments to solve business needs. This article highlights the importance of integrating business strategies and technical architectures to achieve business transformation. It discusses general industry challenges and trends about globalization, and Cisco’s internal experiences with related specific business opportunities and challenges.
IT and business operations leaders face numerous challenges enabling a globalization strategy. First and foremost, rolling out IT solutions to emerging markets is more expensive than rolling out comparable solutions in the developed world. For example, per-unit bandwidth costs can be several times more expensive in emerging countries. Spending for bandwidth is a major component of IT Infrastructure budgets, often running into several tens of millions of dollars (and in some cases hundreds of millions) for a Fortune 100 global company. Energy expenses in emerging countries can also be significantly higher.

The CIO, as a trusted partner to the business, has to execute the corporate strategy to grow globally while balancing the costs involved with such a globalization effort. Different technology trends in global locations also compound this challenge.

For instance, in early 2011 China was on the verge of touching 900 million mobile subscribers. India had close to 800 million subscribers, and most of them did not have access to traditional Internet broadband. While this is having a deep impact on the consumer Internet, IT leaders also have to tackle this challenge at the corporate level, looking at providing enterprise application access through mobile devices and adopting an any device or bring your own device (BYOD) trend—all which lead to a borderless enterprise.

For instance, as part of supporting the globalization requirement, a primary consideration for Cisco IT leaders is controlling the hardware sprawl in remote offices at global sites and providing comparable service levels in those remote offices. As companies look beyond the major cities such as Beijing, Sao Paulo, and Bangalore, expanding into Tier 2/Tier 3 cities in emerging countries, it becomes critical to optimize total cost of ownership (TCO), while maintaining comparable service-level agreements (SLAs). For Cisco, these remote offices are increasingly vital to our overall business strategy, and Cisco IT policies align with these business goals. The ongoing move toward a robust IT as a Service (ITaaS) model is resulting in exceptional alignment with the business goals.

**Technical Architectures and Solutions**

IT leaders and practitioners who focus on specific IT areas see tremendous headwinds in implementing standards-based solutions that solve business challenges such as globalization, while ensuring that TCO is kept under control. Cisco solutions architectures such as borderless networks, collaboration, data center/cloud computing and video enable IT leaders and practitioners with the appropriate standards-based solutions to solve business problems. A business challenge such as globalization requires all of these architectures working in an integrated way to realize the maximum benefits of IT solutions.

When expanding into emerging markets, enterprises have to support more users for a given investment (the volume challenge), which results in reduced IT resource allocation per user. Lack of direct security and operations control can produce additional challenges for IT operations, and any solution should comply with local regulatory requirements.
Cisco IT has taken an architectural approach to help ease the business challenges related to globalization. A global, highly resilient network architecture provides a solid foundation for upper layer services such as video and collaboration. Standards-based architecture and design for quality of service (QoS), security, and content management are integrated into the network. For example, a standard QoS policy is applied across Cisco’s global environment, resulting in efficient network usage and better experience for rich media applications. Cisco® WAN optimization technologies have been deployed throughout the remote office design, for a projected savings of US$30 million in three years.

Cisco’s global data center program has evolved to include a private cloud offering that will help to future proof the investment made in global data centers. This consolidation will reduce the number of global data centers and provide improved services for global business. Through the use of technologies such as unified computing and unified fabric, Cisco IT has been able to reduce the total spend on an operating system instance by 60 percent within the data center. Provisioning times for new services have decreased from about nine days to less than an hour. This reduction was achieved through the Cisco Intelligent Automation for Cloud architecture that combines multiple products and services.

Video solutions are offered in a tiered manner so that the right video solution can be matched to the right global business requirement. Video offerings are tied to the ITaaS strategy that incorporates provisioning, chargeback, and management solutions. The Cisco Medianet architecture enables not only higher level video solutions, but also provides tools for global operations including auto configuration and ease of operations and management for the network.

A global workforce requires the appropriate collaboration tools for better productivity and workplace effectiveness. Cisco’s collaboration technologies such as WebEx® and Quad™ are tied to an integrated architecture framework both within these collaboration technologies and with other architectures such as video, security, and the network foundation.

Cisco Services is an integral part of this architecture strategy for Cisco IT, providing end-to-end service delivery throughout the project lifecycle, from planning to operations and optimization. The IT Service Management framework is refined through the use of service catalogue and provisioning systems integrated with the solutions architecture.

**Products and Services**

To help with global expansion, Cisco IT deployed specific products and services following the architectural strategies defined to solve specific IT business and operational problems. The Wide Area Application Services (WAAS) and optimization technologies provide an enhanced user experience at branch offices and help keep costs under control. An important part of the WAAS product deployment strategy is tight integration with the network using WAAS in Cisco ISR G2 Routers.

Data center consolidation combined with the branch office architecture has produced significant savings by enabling Cisco IT to eliminate local hardware. This interaction between multiple architectures results in a true end-to-end solution, and is a classic example of why an architectural approach is important for an enterprise deployment.

- Keep WAN costs down in emerging markets
- Ensure appropriate video and collaboration architectures
- Secure information and access in global locations while complying with local regulatory requirements
- Gain insight into application, data, and information flow
The Cisco ASR 1000 Series Routers used for global WAN aggregation and Internet connectivity provide high resiliency, superior scalability, and increased operational efficiency. As Cisco’s business expands into much smaller cities in emerging markets, Cisco IT will leverage broadband branch office solutions based on the Cisco Virtual Office solution. This solution has been successfully deployed to more than 25,000 Cisco employees’ homes and has been instrumental in “bridging the time zone gap.” For instance, Cisco employees in India can finish their day working with their team members in California without having to stay in the office late or drive to the campus at wee hours.

Video technologies, along with enterprise collaboration tools, have truly brought tremendous changes to the way global employees at Cisco perform their everyday jobs. Video conferencing including immersive telepresence for high-end meetings and Tandberg® telepresence for workforce productivity have given a wide range of options for employees in global locations to communicate effectively. Collaboration solutions such as WebEx and Quad have increased the productivity of Cisco employees in global locations.

Important considerations with globalization are security and compliance. With web-based security attacks on the rise, Cisco IT has deployed IronPort® Web Security Appliances in an on-premises design, and is in the process of complementing it with the cloud-based ScanSafe solution. In the future, branch office solutions for enterprises would include additional requirements for secure, direct access to the cloud and the Internet. Not having to backhaul all traffic to the nearest data center would result in significant costs savings for enterprises. This could, however, create security implications with relaxed rules for split tunneling. To solve this challenge, Cisco branch offices will have an integrated architecture with ISR G2 Routers and cloud-based ScanSafe to provide the required security. Cisco is also implementing an expanded Identity Management Framework with Cisco TrustSec® and Identity Services Engine (ISE) solutions to offer enhanced security with an Any Device/BYOD solution that would give employees, partners, and customers in global locations seamless access to the enterprise. Through the use of security technologies such as the Adaptive Security Appliances and Intrusion Prevention Systems, Cisco is able to protect its global infrastructure.

Cisco Services play a key role in the operations of a global infrastructure for Cisco IT. An end to end service engagement process has resulted in improved operational excellence and increased user experience. For instance, through the use of Focused Technical Support, Cisco IT was able to reduce the time spent on critical cases by 70 percent. Through automation tools included in Remote Management Services, thousands of network devices spread across the globe can be upgraded without any human intervention.

To help solve business problems, an architectural approach that looks at the end-to-end enterprise value can bring business and financial results that far exceed a company’s investments. A structured process has to be in place to align business requirements with the right technical architectures, with a strong connection to business and IT processes. Integrating business strategies with technical architectures, and implementing associated IT best practices, can go a long way toward easing the challenges of global expansion. This integration can also lead to other significant business transformations. We will continue to share information on the topic of business transformation through architectures with lessons learned from Cisco’s own experiences.
For More Information

To read Cisco IT case studies on a variety of business solutions, visit Cisco on Cisco: Inside Cisco IT
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Note

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