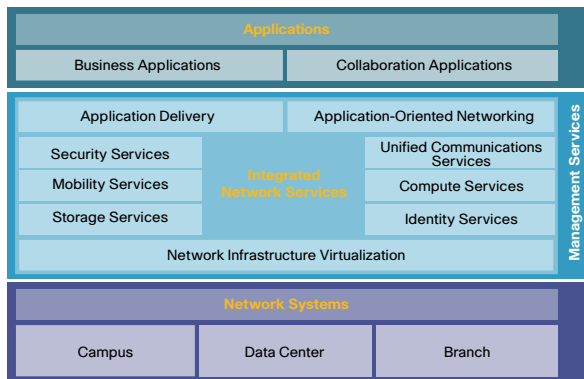


## The Cisco SONA Approach

The Cisco Services-Oriented Network Architecture (SONA) approach provides a standard paradigm for designing networks that link network services with applications to drive business value by:

- Enabling rapid adoption and deployment of new application services at a reduced cost of development and overhead
- Coordinating application and network events with business processes to speed business agility
- Enforcing business policies in the application and network infrastructure to improve security and reduce risk
- Aligning network resources to applications to meet business objectives to provide a competitive differentiation

Figure 1 The Cisco SONA Architecture



## Business Agility is Key to Success

Enterprise architecture ensure business strategy and IT investments are aligned. As such, enterprise architecture allows traceability from the business strategy down to the underlying technology. Using the SONA approach IT will be able to utilize network services to create custom solutions that transform business processes.

## SONA Integrated Network Services

The integrated network services layer provides the interconnection from applications to virtualized IP based services. Integrated network services:

- Are a combination of multiple hardware and software technologies
- Provide pools of functionalities which are loosely coupled and reusable across the enterprise architecture
- Increase the efficiency and effectiveness of resources and applications
- Leverage the ubiquitous access and responsiveness of the network.

Figure 2 SONA Integrated Network Services

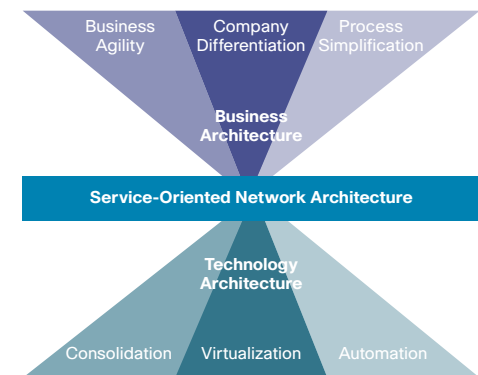


- Expose centralized and standardized services to applications that developers can call and use to remove redundant application features
- Make capabilities available to applications that the network can more readily deliver
- Have Cisco Validated Design (CVD) guides that detail deployment and configuration

## Benefits of Integrated Network Services

- Centralized services reduce development time and effort
- Virtualization increases resource utilization and lowers capital expenditures
- Server offload to the network increases efficiency and lowers operational expenditures
- Application performance improves effectiveness of internal and external collaboration
- Ubiquitous network services and integrations improves business responsiveness and agility

Figure 3 Aligning Business with Technology



## Partnering with Cisco

SONA is the result of Cisco's decades of enterprise architecture experience working with global enterprises in many industries to deploy enterprise-wide architectures and services that provide greater business impact.. SONA is the culmination of Cisco's rich history in development and innovation of network architectures and integrated network services.



## Make the Network Strategic for Business

SONA has several categories of integrated network services with each with multiple services. Each service provides a function to a business application that support's a business solution. SONA integrated services allow applications to offload redundant features and functionalities into the network, centralizing service management, standardizing service requirements, and reducing overhead and server load.

## Cisco SONA Integrated Network Services

### Network Infrastructure Virtualization

- Partition one physical network into multiple virtual networks

### Security

- *Operational Control*: Central security provisioning and policy definition, and desktop and server endpoint protection
- *Confidential Communications*: Client- and clientless-based secure VPNs that allow secure communications internally and externally
- *Secure Transactions*: Day-zero protection for web-based applications and advanced application security
- *Threat Control and Containment*: Malware protection and intrusion protection

### Mobility

- *Security*: Mobility-specific security services that integrate with security services for end-to-end wireless/wired security
- *Guest Access*: Non-employee access to network resources without compromising enterprise security

- *Unified Communications*: Improve collaboration and responsiveness across multiple wireless technologies and a broad range of devices
- *Location*: Monitoring and optimization of processes thanks to asset tracking as well as locate unauthorized wireless devices

### Unified Communications

- *Presence*: Tracking of users' location, availability and preferred communications device to facilitate person-to-person interaction
- *Mobility*: Deliver applications based on device capabilities, location information, context and security
- *Speech*: Interactive and automated speech-to-text and text-to-speech capabilities for use by any device
- *Policy*: Manage and moderate routing rules, directory, access and collaboration privileges
- *Media*: Facilitate communications by integrating voice, video and web conferencing capabilities
- *Identity*: map resource/policy to the user/device

### Identity

- *AAA*: Authentication, access and accounting services that identify users, provide credentials for access control, and track accounting information
- *NAC*: Identification and authentication of devices accessing the network

### Storage

- *Data Migration*: Seamless data movement for server consolidation and reduction in operations and management overhead.

- *Data Replication*: Network-based data replication services for the transparent movement of SAN data across existing IP networks.
- *Backup and Recovery*: Backup and restore service
- *Virtualization*: Thin provisioning, data mobility and cloning across storage devices
- *Compliance and Retention*: Encrypted data-at-rest to ensure compliance with data storage mandates and risk reduction.

### Compute

- *Virtualization*: Virtualization of multiple smaller compute resources into a larger compute resource

### Application Delivery

- *Cache*: Intelligent caching of frequently requested data
- *Acceleration*: Automated compression of traffic
- *Load Balancing*: Disbursing of traffic to multiple points
- *Quality of Service*: Monitoring and prioritization of traffic flows based on policy

### Application Oriented Networking

- *ESB*: Messaging services that enable network devices and applications to communicate over a standardized format
- *Context-Based Routing*: Deep packet inspection on the wire that enables routing based on context