

Cisco Policy Suite: Increase Competitive Advantage

What You Will Learn

Ordinarily used for network operations, policy solutions are also becoming an important tool for marketing and for managing the subscriber experience. This white paper explains how the Cisco Policy Suite helps mobile operators:

- Introduce new services more quickly, for a competitive advantage
- Provide a consistently high quality of experience, helping to prevent churn
- Keep pace with surging network traffic in today's Internet of Things era

How Policy Solutions Affect Profitability

Most mobile operators have a policy solution that enforces simple policies concerning data usage. But in the last few years, requirements have changed radically.

First, LTE data and voice traffic is surging. Voice over LTE (VoLTE) typically triples or quadruples the number of transactions per second. The policy server now needs to handle hundreds of thousands of transactions per second and millions of sessions.

Second, today's Internet of Things produces still more data. It comes from cars, trains, building sensors, "wearable devices," and other things now connecting to networks. Cisco predicts that 37 billion new things will be connected to the Internet by 2020. Data from a train's safety systems needs different treatment than the calorie counter on a smartphone, so new policy solutions need to be able to treat data differently depending on its source.

Third, today's consumers expect the same experience whether they connect over a cellular or Wi-Fi network. Therefore, operators are beginning to use both networks together to optimize the subscriber experience. The best-known approach is to offload cellular data to Wi-Fi when the cellular network is congested - say, in a shopping mall. But there are also occasions when you might want to offload Wi-Fi traffic to cellular - say, in a stadium.

Fourth, retaining subscribers now requires the agility to respond rapidly to new usage trends. To identify trends, you need access to network data. And to capitalize on the knowledge, you need a way to quickly introduce new services, bundles, and pricing.

Finally, remaining profitable means minimizing data-center space, power, cooling, and management costs. Constantly adding new physical servers to keep pace with growth is prohibitively expensive. A better method is to build a virtualized infrastructure that all applications can share. When any application is overloaded, you can temporarily or permanently add a new virtual machine on the shared infrastructure. Consolidating to one infrastructure also lowers management and training costs.

Solution: Cisco Policy Suite

Cisco Policy Suite helps you discover emerging usage trends and quickly introduce new services. No coding is required. The solution can process millions of sessions and hundreds of thousands of transactions per second, and treat traffic differently depending on the source.

If you already have an existing policy manager, you do not need to replace it. Cisco Policy Suite augments the existing policy manager to provide more sophisticated policy enforcement. New operators can use the Cisco Policy Suite for all policy requirements.

The solution consists of four main components:

- **Policy builder:** Allows you to write policies for new use cases without coding. Examples include:
 - Multidevice, multiaccess shared quota
 - Fair-usage throttling
 - Nights and weekends time-based
 - Parental and usage control
 - Video optimization
 - Tethering control
 - Wi-Fi offload
 - RAN congestion
 - VoLTE
 - Bill shock
 - Tiered service
 - Web application
 - Sponsored access
 - Subscriber personalization
- **Policy server:** Executes policies based on conditions. You can define thresholds that trigger an action. For example, a message can be sent when a subscriber has used 75 percent of the monthly data allowance, to lessen bill shock.
- **Online charging system:** Charges subscribers based on each subscriber's usage and rates.
- **Subscriber manager:** Integrates with your existing database so that you don't spend duplicate effort.

Competitive Advantages

More sophisticated policy management creates a competitive advantage. It helps you introduce services more quickly, add new revenue sources, scale easily, and keep costs down.

Rapidly Introduce New Services and Pricing Models

Building and launching new services takes just days or weeks. The policy builder component of the Cisco Policy Suite includes an extensive library of use cases that you can easily customize. Dynamically matching services to the user, context, and network conditions helps monetize your network.

For example, suppose the goal is to manage cellular network congestion to maintain a high quality of experience. Using the policy builder, one option is to reduce subscribers' speeds. Another is to block or reduce the bandwidth allocated for video, peer-to-peer, and voice over IP (VoIP) sessions. The policy can consider the subscriber's plan, value, and churn risk.

Writing policies does not require coding. Instead, choose options from pull-down menus and checklists to identify triggers and other variables to consider when making decisions. You can test policies offline before moving them to the operational network.

Earn Revenues from Sponsored Content or Network Access

You can also write policies that allow over-the-top (OTT) providers, such as social sites, to sponsor network access. OTT providers earn revenues through advertising, and they can create tiered service propositions based on user and network analytics. For example, a streaming video provider could write a policy to apply a high QoS level whenever a subscriber views a high-definition video. Instead of charging the subscriber, the operator and content provider could share the costs, considering it an investment in customer satisfaction. The policy server enforces usage restrictions, including parental controls and location.

Other policies allow merchants to sponsor content. For example, a sportswear retailer could offer customers who spend more than fifty dollars a voucher to watch HD streaming video of a tournament final. When a customer redeems the voucher, Cisco Policy Solution applies the data charges to the merchant, not against the subscriber's monthly quota.

Real-World Successes with Cisco Policy Solution

- Optus Australia launched 64 new plans in one year.
- Reliance India migrated all 60 million subscribers from an Oracle database in 90 minutes. The solution supports 11,000 transactions per second with 2-millisecond latency on database lookups.
- A converged operator in the Middle East introduced a dynamic, time-based policy in less than one week. The new policy has zero lines of code to maintain, compared to 6800 lines of code on the old policy management solution.

Stay Ahead of Growth in Subscribers, Connections, and Data

Traditionally, the only way to relieve congestion has been to add more capacity. But adding capacity takes so much time that you risk losing subscribers. And constantly adding capacity is not a viable strategy as video traffic continues to grow.

Cisco Policy Suite is highly scalable. It can support:

- 250,000 transactions per second and can scale linearly
- 75 million concurrent subscriber sessions
- 50,000 session activations per second

Reduce TCO for Policy Management

Cisco Policy Suite lowers server costs because all applications operate as virtual machines on shared infrastructure. Therefore, server capacity is available to whichever application needs it at the time. The fact that the solution scales linearly also lowers capital costs. Two servers support twice as much load; three servers support triple the load.

Operational costs can also decrease, because the solution does not require database licensing fees. And eliminating the need for coding frees up programmers for other activities.

Conclusion

More subscribers, more network-connected “things,” more video, and higher consumer expectations are increasing the demands on your policy solution. Cisco Policy Suite can meet those demands. It scales to millions of sessions and hundreds of thousands of transactions per second. It allows you to quickly write new policies to improve the user experience or introduce new services and bundles. And it lowers costs by operating on a virtualized infrastructure.

For More Information

To learn more about the Cisco Policy Suite, visit: <http://www.cisco.com/c/en/us/products/wireless/policy-suite-mobile/index.html>.




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