

# Cisco Lab Services Automates Operations and Reduces OpEx

Cisco Engineering Shared Services uses Cisco Prime Infrastructure to manage lab infrastructure and support business needs.

## EXECUTIVE SUMMARY

### CISCO ESS LAB SERVICES

- Support for global engineering organizations
- Over 16 labs with more than 4000 devices

### BUSINESS CHALLENGE

- Improve operational efficiency
- Reduce maintenance overhead
- Lower operational costs

### NETWORK SOLUTION

- Deployed Cisco Prime Infrastructure
- Converged network lifecycle management for ease of monitoring, troubleshooting, and reporting
- Improved configuration, change, and compliance management

### BUSINESS RESULTS

- Improved productivity by leveraging configuration templates to update configuration on multiple devices through a single GUI
- Reduced maintenance overhead from generating configuration backup of more than 100 devices every 15 days
- Automated and customized lifecycle reports, eliminating hundreds of hours of manual work

## Background and Business Challenge

Engineering Shared Services (ESS) Lab Services is a division of Cisco Engineering Operations. It supports Cisco global engineering organizations 24 hours a day, 7 days a week.

The ESS Lab Services mission is to deliver flexible, scalable lab management services, capabilities, and infrastructure to Cisco Engineering labs while providing transparency into lab operations and costs, helping enable accountability and continuous improvement in all aspects of lab administration.

ESS Lab Services- India supports 16 labs across India in Bangalore, Hyderabad, and Pune. All have advanced, dual-core network backbone architecture that contains:

- 36 x 1 Gigabyte & 2 x 10 Gigabyte Uplinks
- 110 backbone devices supporting 5000 racks
- 1000 VLANs (includes private and public)
- 20,000 physical network ports
- 90,000 routable IP addresses
- 4000 Layer 2 devices

Lab devices include Cisco Catalyst® 6500 Series, 3750 Series, and 3550 Series Switches, Cisco Nexus® 7000 Series Switches, and Cisco® 2800 Series and 2900 Series Integrated Services Routers. The ESS Lab Services team in India was looking for ways to enhance overall productivity and lower costs. Supporting 16 locations and 4000 devices with device reconfigurations and software updates is a daunting task. Some of the challenges facing the lab services team included:

- Discovery and inventory management, identifying assets, their software versions, and location
- Daily changes to device configurations and software image updates
- Backup and restore of device configurations
- Active monitoring of faults and events for proactive troubleshooting
- Quick deployment of new devices and sites

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The team initially brought in an open-source network management tool to help manage the remote labs, but quickly found that the tool did not meet the needs of the team and required too much time and manual intervention to be an effective management solution.

**“Cisco Prime Infrastructure has lowered our operating expenses by 60 percent while improving the satisfaction of our user community!”**

—Charles Statman, Manager, Cisco Lab Services Global Team

## Business Results

### **Faster Troubleshooting of Network Issues Increased Productivity and Performance**

The customer base for the Cisco India lab network infrastructure required network administrators to create customized configurations for each customer. In addition, a significant challenge is backing up configurations of more than 100 devices every 15 days. With Cisco Prime Infrastructure, “It takes 1 to 2 minutes per job for configuration backup,” says Prajwal Nagarajiah, the lab administrator for Cisco India Lab Services. The configuration archive feature allows the lab administrators to customize a policy that generates a backup of the required devices and sets the backup frequency. Lab administrators now schedule archives and compare current configurations with previous configurations, making it easier to troubleshoot problems and track network configuration changes.

Lab administrators are excited about Cisco Prime Infrastructure’s ability to discover new device configurations and get the most updated device inventory. The dashboards are so intuitive and user friendly that the administrators now spend less time updating information and more time analyzing problems and arriving at solutions.

Lab administrators are using Cisco Prime Infrastructure to cohesively customize, schedule, and generate various compliance, audit, performance, and security reports, enhancing their decision-making capabilities during troubleshooting.

### **Reduced Operational Expenses**

The old Infosec password policy required network administrators to periodically log in manually to every switch in the network to change passwords. The configuration templates in Cisco Prime Infrastructure make it easy to design and deploy a configuration on one or many devices in the network at the same time, improving user productivity and reducing operational costs.

### **Improved User Experience and Customer Satisfaction**

Lab administrators recall that the network team used to deal with problems only after receiving an email or a case raised by a customer. Cisco Prime Infrastructure generates email alerts or warnings to the administrator when a device configuration exceeds its defined threshold for CPU and memory, helping enable the administrator to proactively troubleshoot the issue. This new, proactive approach has resulted in enhanced customer satisfaction.

Cisco Prime Infrastructure also includes a high availability feature that provides continued operation in case of failure. This feature has helped the Cisco ESS Lab Services team in India to enhance service-level agreements, reduce the number of escalations, and streamline the support process with our customers.

## For More Information

To find out more about Cisco Prime Infrastructure, go to:

[http://www.cisco.com/en/US/products/ps12239/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/ps12239/tsd_products_support_series_home.html).



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Printed in USA

C36-726202-00 01/13