

## IPv6 Capability Assessment



The federally mandated 2008 deadline for IPv6 implementation is rapidly approaching, which means that federal agencies must quickly begin the process of migrating from an IPv4 network backbone to an IPv6 network backbone. Cisco Systems® offers a comprehensive suite of IPv6 transition services to help agencies meet the federal deadline and achieve their IPv6 goals.

### CHALLENGE

According to a May 2006 survey conducted for Cisco by Market Connections, a federal IT market research firm, few federal agencies have made significant progress in migrating to IPv6. The survey found that less than 4 percent of agencies have finished their IPv6 implementations, less than 8 percent have completed their transition plans, 26 percent have not yet targeted a completion date, and 34 percent have not yet assigned an officer to coordinate transition plans. Based on these findings, it is clear that the majority of federal agencies have a number of challenges to overcome before 2008. In trying to implement IPv6, federal agencies cite budget constraints, a lack of time to focus on the IPv6 migration, and a lack of experience to guide them through the transition as among the primary challenges they face. In addition, many agencies must conduct their network assessments and other IPv6-related projects during normal refresh cycles. As a result, federal agencies are in a catch-22: their IT staffs are already overworked and they lack the financial resources to hire additional personnel with the expertise to effectively implement an IPv6 solution, but the costs of deploying a solution improperly or incompletely—threats to network security, network downtime, loss of business continuity or employee productivity, and so on—are simply too great to be acceptable.

### SOLUTION

Cisco offers a comprehensive suite of IPv6 transition services to help federal agencies overcome these challenges, meet the 2008 deadline, receive the ongoing support they need after deployment, and achieve their long-term IPv6 goals. The Cisco® IPv6 transition services follow Cisco's traditional network lifecycle: prepare, plan, design, implement, operate, and optimize. Given that most federal agencies have not yet started the transition process or are still in its very early stages, Cisco is currently focusing on services that address the first half of the IPv6 network lifecycle (prepare, plan, design, and implement). Cisco is developing services that address the operation and optimization phases and will offer them in the near future. Cisco currently has several IPv6 transition services available: IPv6 Capability Assessment, a preparation and planning service; IPv6 Network Infrastructure Detailed Design Development, a post-assessment design service; and IPv6 Network Infrastructure Implementation Engineering, a post-assessment implementation service. Cisco also recommends IPv6 Audit as a follow-up to the IPv6 Capability Assessment and IPv6 Software Recommendations in conjunction with IPv6 Network Infrastructure Detailed Design Development. All services are delivered by Cisco Advanced Services engineers with specific expertise in IPv6.

### IPv6 Capability Assessment

The IPv6 Capability Assessment is a preparation and planning service that provides a comprehensive view of the state of your network's readiness to support IPv6 services. The capability assessment is the first step on the road to your IPv6 solution. Through the IPv6 Capability Assessment service, Cisco Advanced Services engineers conduct a thorough assessment of your core Cisco network hardware devices and Cisco IOS® Software releases. They gather critical network data, identify and document specific areas of concern, and present all of this information to you in a final report that can help you understand the gaps that could affect a successful migration. Cisco Advanced Services engineers also determine which Cisco devices have reached their end-of-life (EOL) date, after which Cisco no longer sells the device, or their end-of-sale (EOS) date, after which Cisco no longer supports the device; then the engineers provide you with access to field notices and recommended IPv6 migration paths for EOL and EOS devices. If requested, Cisco Advanced Services engineers can deliver recommendations on critical IPv6 transition issues. Recommendations may include which software versions and hardware platforms will need to be upgraded to be IPv6 compliant, how to implement best practices for a smooth migration to IPv6 technology, and how to modify recommended migration paths for EOS and EOL devices to help ensure that those paths are compatible with your IPv6 transition plan. In this way, the IPv6 Capability Assessment service not only prepares you to attain IPv6 compliance, it also helps you improve adherence to best practices, reduce potential downtime, increase fault tolerance, and ensure that your future IPv6 network environment delivers world-class levels of service.

Activities and Deliverables	Benefits
Identify and poll selected devices and collect appropriate data.	<ul style="list-style-type: none"> <li>• Provides a precise look at your ability to provide IPv6 services on your network</li> </ul>
Examine Cisco IOS-based routers and switches and Catalyst® operating system and report on their capability to support IPv6 features. Results may be organized into the following six major outcomes: <ul style="list-style-type: none"> <li>• The device is currently capable of supporting IPv6 features; hardware and software upgrades are not required.</li> <li>• The device is running software (IOS) that supports IPv6 features, but hardware (memory) upgrades are required.</li> <li>• The device is currently capable of supporting IPv6 in hardware, but a software (IOS) upgrade is required.</li> <li>• Both hardware (memory) and software (IOS) upgrades are required to support IPv6.</li> <li>• The device is not capable of supporting IPv6 services.</li> <li>• The analysis was unable to determine the device's capability to support IPv6; further analysis is required.</li> </ul>	<ul style="list-style-type: none"> <li>• Assists you in attaining IPv6 compliance</li> <li>• Helps improve your adherence to best practices</li> <li>• Helps increase fault tolerance and reduce the possibility of downtime</li> <li>• Helps ensure that your IPv6 network environment provides world-class service</li> <li>• Delivers observations and recommendations that can be used as guidelines for future design issues</li> <li>• Helps you address primary objectives</li> </ul>
Correlate data and present in a report.	
Provide the following additional information (if contracted) to supplement the report: <ul style="list-style-type: none"> <li>• Recommend software versions based on the stability of the code and the features required by the network</li> <li>• Identify potential problems that may be related to hardware</li> <li>• Suggest configuration and topology changes that provide performance enhancement to avoid potential problems</li> </ul>	

*NOTE: If you require more in-depth device evaluation, Cisco offers additional audits that provide device specific information and a baseline over time.*

## FOR MORE INFORMATION

For more information about the IPv6 Network Assessor Tool visit

[http://www.cisco.com/web/strategy/government/us\\_federal.html](http://www.cisco.com/web/strategy/government/us_federal.html)

Or contact [ipv6-network-assessor@cisco.com](mailto:ipv6-network-assessor@cisco.com)



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