Cisco Crosswork Network Controller
## Contents

- Product overview .......................................................... 3
- Features and benefits ..................................................... 4
- Product specifications .................................................... 5
- System requirements ....................................................... 5
- Ordering information ....................................................... 5
- Warranty information ...................................................... 6
- Cisco environmental sustainability .................................. 6
- Implementation and optimization services ......................... 6
- Solution support ............................................................. 6
- Cisco Capital ................................................................. 7
- Call to action ................................................................... 7
- Document history ............................................................ 8
Cisco Crosswork™ Network Controller allows customers to provision and maintain intent-based network services in a multivendor network environment with a common GUI and API.

Product overview

Network operators are facing challenges to support the exponential growth of network traffic while addressing the pressures to efficiently run network operations. Providing quick service delivery with optimal network utilization and ability to react to bandwidth and latency demand fluctuations in real time is vital to success. Operators are reducing the management complexity by converging and collapsing their networks, migrating to Software-Defined Networks (SDNs), and automating daily operational tasks to become more efficient and competitive.

Cisco Crosswork Network Controller allows customers to deploy services faster and enables intent-based network optimization mitigating network congestion issues. Cisco Crosswork Network Controller has been shaped by the experience of helping multiple tier-one service provider and large enterprise customers automate everything from simple device turn-up to sophisticated full lifecycle service management. Cisco’s Network Controller combines intent-based network automation to deliver critical capabilities for service orchestration and fulfillment, network optimization, service path computation, device deployment and management, and fault remediation.

Cisco Crosswork Network Controller offers service providers a turnkey network automation solution that delivers increased service agility, cost efficiency, and optimization for faster time to customer value and lower operating cost.

The fully integrated solution combines core capabilities from multiple innovative, industry-leading products—Cisco® Network Services Orchestrator (NSO), Cisco Segment Routing Path Computation Element (SR-PCE), and the Cisco Crosswork suite of applications—with common API and integrates with a common UI, providing control via a single pane of glass.

With Cisco Crosswork Network Controller, customers can realize a number of outcomes:

- Visualize network and services inventory.
- Segment Routing (SR) policy provisioning with explicit intent (for example, bandwidth, latency, etc.) enabling 5G network slicing.
- Services provisioning (for example, L2VPN, L3VPN services with associated segment routing policy).
- Collect real-time performance information and optimize the network to maintain the intent of the associated segment routing policy. Tactically optimize the network during times of congestion with bandwidth optimization service.
- Migration from legacy to new networks (for example, device migration to replace older network devices with newer ones, migration from RSVP-TE to SR-TE, etc.)
- Ability to build customer-specific services and applications leveraging the Crosswork Network Controller APIs and telemetry data collected.
• Turnkey automation solution to offer faster deployment into operations.
• Enhanced visibility and simplified operations with full lifecycle automation.
• Increase profitability through optimized investments and better Opex utilization.

Features and benefits

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity and IP topology auto-discovery</td>
<td>• Auto-discovery based on the IETF standard, Border Gateway Protocol Link State (BGP-LS), to automatically discover the IP topology across multiple vendors</td>
</tr>
<tr>
<td>Service provisioning</td>
<td>• Extensible L2VPN and L3VPN service provisioning</td>
</tr>
<tr>
<td>Transport policy provisioning</td>
<td>• Service-oriented transport network policy provisioning with explicit SLAs by specifying optimization objective (latency/IGP/TE metric minimization) and constraints (affinities, disjoint paths, bandwidth, etc.)</td>
</tr>
</tbody>
</table>
| Closed-loop intent optimization| • Leveraging real-time protocols such as BGP-LS and Path Computation Element Communication Protocol (PCEP), Crosswork Network Controller enables closed-loop tracking of the network topology state changes, reacting quickly to changes in network conditions creating a self-healing network  
• React to bandwidth and latency demand fluctuations in real time |
| Single pane of glass           | • Crosswork Network Controller enables real-time visibility of the network topology, service inventory, and segment routing policy visualization from a single pane of glass  
• Service provisioning UI (dynamic model driven) for customized L2VPN/L3VPN service types |
| Northbound API                 | • An open and programmable framework enables network operators to develop their own applications based on API and integration into existing toolset |
| Multivendor                    | • Crosswork Network Controller is multivendor capable for network and service provisioning, data collection, and network control leveraging industry standards—BGP-LS, SNMP, PCEP, segment routing, NETCONF/YANG |
## Feature | Benefit
---|---
Extensible | ● Prebuilt function packs for service and transport policy provisioning  
● Extensibility through custom development
Flexible consumption | ● 1-year, 3-year, and 5-year subscription licenses

### Product specifications
Cisco Crosswork Network Controller has been shaped by helping large, tier-one service provider and enterprise customers automate everything from simple device turn-up to cross-domain automation to sophisticated full lifecycle service management. Cisco Crosswork Network Controller is built on industry standards enabling multivendor compliance. Cisco Crosswork Network Controller has three areas of touch points into the network:

1. **Provisioning**: A model-based programmatic interface (NETCONF/YANG) that allows for control of everything from simple device turn-up and configuration management to sophisticated, full lifecycle service management.

2. **Data collection**: A common performance data collection using SNMP (Simple Network Management Protocol), MDT (Model Driven Telemetry), CLI (Command Line Interface), etc.

3. **Network control**: Real-time network topology discovery via BGP-LS, and network optimization and traffic control using PCEP.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Protocol details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device, service, and policy provisioning</td>
<td>NETCONF/YANG</td>
</tr>
<tr>
<td>Real-time topology discovery</td>
<td>BGP-LS</td>
</tr>
<tr>
<td>Network traffic control</td>
<td>PCEP</td>
</tr>
<tr>
<td>Path engineering</td>
<td>SR-TE, RSVP-TE</td>
</tr>
<tr>
<td>Network performance data collection</td>
<td>SNMP, MDT, CLI</td>
</tr>
<tr>
<td>Northbound API</td>
<td>RESTCONF</td>
</tr>
</tbody>
</table>

### System requirements
Cisco Crosswork Network Controller is designed for different customer network sizes. Only Cisco can offer this comprehensive and holistic automation approach delivered in a single pane of glass. Cisco Network Controller deliver a fully integrated solution targeting for your most challenging real-world problems. Contact your Cisco sales representative to learn more about the system requirements matching your network scale.

### Ordering information
Contact your Cisco account representative for details on how to order Cisco Crosswork Network Controller.
Warranty information

Cisco environmental sustainability
Information about Cisco’s environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the “Environment Sustainability” section of Cisco’s Corporate Social Responsibility (CSR) Report.

Reference links to information about key environmental sustainability topics (mentioned in the “Environment Sustainability” section of the CSR Report) are provided in the following table:

<table>
<thead>
<tr>
<th>Sustainability topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information on product-material-content laws and regulations</td>
</tr>
<tr>
<td>Information on electronic waste laws and regulations, including products, batteries, and packaging</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials</td>
</tr>
<tr>
<td>WEEE Compliance</td>
</tr>
</tbody>
</table>

Cisco makes the packaging data available for informational purposes only. It may not reflect the most current legal developments, and Cisco does not represent, warrant, or guarantee that it is complete, accurate, or up to date. This information is subject to change without notice.

Implementation and optimization services
Drive internal efficiencies and speed to market with Cisco CX Services Crosswork Network Controller Professional Services. Leverage our implementation experience across multiple customer environments and best practices. Cisco uses an agile delivery methodology to deploy the Crosswork Network Controller in your environment. Working with your team in pre- and production environments, acceptance testing, we’ll start making sure your team adopts the use cases. We’ll continue to stand by you, delivering knowledge transfer and add-on services (for example: upgrades and/or accelerators) for the Crosswork Network Controller use cases and components through the duration of the three-year term. This ensures your team understands, adopts, and operationalizes the Crosswork Network Controller use cases.

Solution support
Maximize performance, reliability, and ROI of your Cisco Crosswork Network Controller with Cisco Solution Support. You get access to a team of Cisco solution experts who are your primary point of contact, delivering centralized support across your deployment 24x7x365. Whether you have an issue with a Cisco product or one from another vendor—or are just looking for guidance and assurance on your new solution—simply contact us. We’ll take it from there and remain accountable for your case, from first call to resolution. Note: If issues are identified as being due to third-party vendor devices, we expect you to engage the third-party vendor. Cisco will work with you to provide triage information to the third party.

Solution Support can help increase staff efficiency by 32 percent, reduce incident occurrence by 21 percent, save $37 million in downtime, and increase company revenue by an average of $3.5 million. We have a track record of resolving complex issues on average 43 percent more quickly than product support, making it the right kind of technical service for Cisco Crosswork Network Controller solution environments.
Cisco Capital

Flexible payment solutions to help you achieve your objectives

Cisco Capital makes it easier to get the right technology to achieve your objectives, enable business transformation and help you stay competitive. We can help you reduce the total cost of ownership, conserve capital, and accelerate growth. In more than 100 countries, our flexible payment solutions can help you acquire hardware, software, services and complementary third-party equipment in easy, predictable payments. Learn more.

Call to action

For more information on Cisco’s network automation portfolio for Service Providers please visit www.cisco.com/go/crosswork. To learn more about Cisco Crosswork Network Controller or to schedule a demonstration contact your Cisco sales representative.
## Document history

<table>
<thead>
<tr>
<th>New or Revised Topic</th>
<th>Described In</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Updated data sheet version 2</td>
<td>Data sheet</td>
<td>Feb 22, 2020</td>
</tr>
<tr>
<td>Created data sheet version 1 (draft)</td>
<td>Data sheet</td>
<td>Feb. 5, 2020</td>
</tr>
</tbody>
</table>

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at [https://www.cisco.com/go/offices](https://www.cisco.com/go/offices).

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: [https://www.cisco.com/go/trademarks](https://www.cisco.com/go/trademarks). Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)