

Cisco Info Center



Cisco Info Center (CIC) is a service-level alarm monitoring and diagnostics tool that provides network fault and performance monitoring, network trouble isolation, and real-time service-level management for large networks. CIC is designed to help operators focus on important network events, offering a combination of alarm processing rules, filtering, customizable alarm viewing, and partitioning. CIC provides a highly configurable client/server application that can consolidate, deduplicate, filter, and correlate fault information from multiple network layers.

CIC is the fault management component of the Cisco Service Management (CSM) infrastructure that provides end-to-end service management solutions for service provider and large enterprise networks. Operating at the service and network levels, CIC interacts with other management tools within the CSM product suite to provide customer-focused, service-level monitoring and network partitioning for Virtual Private Network (VPN) and Customer Network Management (CNM) services. CIC works in conjunction with network element management software such as wide-area network (WAN) Manager to provide fault and alarm management across local area network (LAN) and WAN networks.

CIC consists of the Netcool technology from Micromuse at its core plus Cisco enhancements. Cisco enhancements at Layer 2 include a customized WAN manager mediator (SV+ mediator) and Cisco developed and tested correlation rules and tools. Layer 3 events are received through the Syslog mediator.

Key Benefits

- *Simplified operations*—By integrating alarms and events from multiple technologies and vendors into a single environment, operators only have to learn and use one platform for troubleshooting and diagnostics. Automation helps reduce the amount of manual effort required to resolve problems.
- *Scalable and highly distributed architecture*—Distributed client/server architecture allows for configuration of distributed multi-management domains. Data filtering and deduplication features let operators monitor domains by workgroups, geographies, or customer ID.
- *Immediate return on investment (ROI)*—Consolidates fault data from multi-vendor multi-technology systems enabling efficient and timely resolution of network problems and reduced operations cost. Preprogrammed with extensive WAN-based automation rules and partitioned views to enable immediate out-of-box functionality and value.
- *Enhanced service offering*—This feature supports Web- and Java-based service-level monitoring applications developed by service providers so end customers have ready access to their portion of the network.



- *Powerful administrative interface*—The interface is highly customizable to suit a network manager's specific viewing requirements. Java- and Web-based front-end support enables operators to use Web technologies for integrated fault management and transfer of information to customers to prove compliance with service-level agreements (SLAs).
- *Highly customizable event correlation engine*—Empowers operators to interpret data while event-triggered actions can be configured to respond to certain behaviors automatically. The flexible combination of rules can be further dynamically enhanced, enabling creation of new automation rules (event-triggered actions) based on observed network behavior and combination of events. This can then trigger user-defined actions such as execution of autodiagnostic scripts.
- *Robust trap mechanism*—The mechanism facilitates guaranteed trap delivery to ensure receipt and processing of every trap.
- *Information overload*—Operators must analyze numerous data to determine the status of a network element or a class of service (CoS). CIC is capable of consolidating, deduplicating, partitioning, and correlating information and presents the core fault data in a way that is easy to interpret.
- *Multi-vendor networks*—CIC is capable of receiving multiple data streams independent of the underlying network-element technology, providing a comprehensive centralized fault-management center.
- *Multi-network support*—A single Cisco Info Server in Release 1.1 can support multiple info mediators supporting different versions of the underlying WAN networks (8.4 through 10.4).
- Cross correlation between provisioning and fault databases.

Applications

Administrative VPNs

CIC can support administrative VPN among several Network Operations Centers (NOCs). In some networks, provincial or regional NOCs require a partial view of the network as a local network segment to facilitate local problem detection and resolution. Regional NOCs may also require a localized topological view of the local network portion. Global NOCs support regional NOCs from a central location and provide a view of the entire network and global fault monitoring.

Service-Level Monitoring

Flexible definition of partitions and event filters in CIC allows service providers to monitor the status of services that encompass multiple technologies and resources. The ability to monitor a service inherently includes all the network elements that comprise a service. Operators can deploy CIC to create abstract views and provide status of the subscribed services for each individual customer, in a unified way and based on service definitions. This feature simplifies a service provider's ability to monitor customer services.

Architecture

The CIC architecture comprises one or more Distributed Info Servers, a graphical user interface (GUI)-based administrative desktop, Info Gateways, a Java event list server, and distributed Info Mediators.

The functional architecture enables event consolidation, deduplication, filtering, and correlation activity via scalable and robust product components. Administrative desktop views support VPN, CNM, and resource partitioning for distributed management environments with a highly customizable interface and Java and Web front-end support. Flow-through interfaces provide linkage to other management systems.



Product Components

Info Server

The core component of CIC, Info Server consolidates fault information from network-element managers through sources such as Info Mediators and other Info Servers. Info Server is a memory-resident, real-time database that aggregates and deduplicates fault data and correlates it according to user-defined rules. Info Server is optimized for monitoring real-time activity. Event logging into persistent storage is handled via Info Gateways into relational databases.

IP VPN Policy Manager

Integration between IP VPN Solution Center and CIC is managed through the IP VPN Policy Manager. This integration allows for cross-correlation between VPN provisioning database and the network fault events to create an automated, real-time service and end-user impact analysis.

Cisco Info Expert

Cisco Info Expert supports:

- Event consolidation, deduplication, filtering, and Boolean correction to intelligently reduce the amount of fault information presented to the operator and to isolate the affected services
- Proactive, rules-based automation, where user-definable actions are triggered based upon observed network behavior; escalation procedures can be incorporated, including fail-over support that supports hot-standby configuration and store-and-forward processes to preserve data
- Distributed alarm management and integrated tools and diagnostics for flexible distribution of multiple Info Servers in a network, linked via Info Gateways, so operators in different geographical areas can focus on what is important, sharing information with each other as necessary; operators can also launch context-sensitive diagnostic tools based upon the type of alarm to expedite problem identification and resolution

Administrative Desktops

Administrative desktops are front-end applications that operators see and use to locally or remotely connect to Info Servers. The GUI includes highly customizable viewing capabilities that can provide partitioning by operator, customer, and administrative domain or other operator-defined criteria. A flow-through interface enables integration with the existing OSS.

Java Event List Server

Java Event List Server is a collection of Java-based applications that provide customizable event information to end users via Java-enabled Web browsers. It enables service providers to deliver real-time event information to their service subscribers. Java event lists allow service providers to incorporate dynamic read-only event lists into a Web page for subscribers' review. Operators gain read/write access to event lists via username/password authentication.

Info Mediators

Info Mediators act as event collectors and analyzers for CIC. Info Mediators bridge the element managers to Info Servers; collecting fault data from all managed network elements. Info Mediators are turnkey applications that collect and process fault and event information before forwarding it to the Info Server in canonical format. They can be configured to filter and translate upon receipt of certain data. Configurable actions include translation of specific trap identifiers or insertion of additional event information along with an original alarm message, such as customer labels or service identifiers.

Info Gateways

Info Gateways link the Info Server to Info Servers or other external systems. They facilitate the propagation of information between servers, systems, and data storage. One of the most significant functions of an Info Gateway is its ability to support the real-time filtering and distribution of faults and events. Info Gateways perform event and alarm functions such as:

- *Propagation Mechanism*—Allows data transfer between Info Server and other systems, unidirectionally or bidirectionally providing single or multiple sets of alarms to be efficiently forwarded to multiple destinations
- *Discrimination Mechanism*—Determines which information is propagated through the Info Gateway including alarms and events that satisfy a filter and specifies particular components of an alarm or event; provides flexible control over the amount and type of information propagated via an Info Gateway

Several Info Gateway products are available off the shelf, including applications that attach to Info Servers, persistent data systems (such as Oracle and Informix), external files, and third-party trouble-ticket systems. Gateways may also be used to forward Simple Network Management Protocol (SNMP) traps to other systems.

Cisco Service and Support

Service and support for CIC is available as a one-time service or an annual maintenance contract. Support ranges from help desk assistance to proactive, onsite consultation. All support contracts include major Cisco IOS® software updates, full access rights to the

award-winning Web site Cisco Connection Online (CCO), and 24-hour-a-day technical assistance. Contact your local sales office for further information.

Minimum Configuration

Current release CIC 3.0.

Administrative desktops, Info Server, Info Gateways, and Info Mediators are supported on Sun Solaris 2.7.

- *Info Server*—Ultra 10 or higher with a minimum of 512-MB RAM, 200-MB hard drive
- *Info Mediators*—Ultra II or higher with a minimum of 64-MB RAM and a minimum of 100-MB hard drive
- *Info Admin Desktops*—Sun Workstation with a minimum of 48-MB RAM, a minimum of 75-MB hard drive

Please refer to the release notes for more detail on the feature lists offered in CIC.

For current Solaris-Based Network Management product hardware requirements, please refer to the [Sun Cisco Optimized Platform Recommendations Table](#) for hardware and part numbering ordering information.



Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters
Cisco Systems Europe
11, Rue Camille Desmoulins
92782 Issy-les-Moulineaux
Cedex 9
France
www-europe.cisco.com
Tel: 33 1 58 04 60 00
Fax: 33 1 58 04 61 00

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems, Inc.
Capital Tower
168 Robinson Road
#22-01 to #29-01
Singapore 068912
Tel: +65 317 7777
Fax: +65 317 7799

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