



Ixia ControlTower Architecture

Delivering Visibility and Flexibility to Service Providers

The Ixia ControlTower™ architecture delivers one of the most robust network monitoring solutions available for service providers. This includes equipment that has been tested for reliability and redundancy. The architecture also enables flexible and robust management scenarios that allow the monitoring switches to integrate into your existing management systems as well as your existing business processes. At the same time, the Ixia Net Tool Optimizer switches used within the ControlTower solution have an extensive array of features that allow you manage the flow of data to your monitoring tools in the exact manner you want.



Carrier Grade Architecture

The ControlTower solution is carrier grade. Both the controller and the members can be ordered in versions that are NEBS level 3 certified. Part of this certification includes redundant power supplies for both controller and member units. Certification in general means that service providers and large enterprises can be assured of product quality and reliability.

In addition, Ixia's ControlTower architecture solves some of the biggest problems facing service providers – the need for reliable solutions, rapidly increasing scale, robust management options, and improved business agility. Ixia uniquely addresses the scale problem for the long term with the ControlTower architecture that employs a specialized hub-and-spoke architecture, which reduces the number of trunk links to an absolute minimum. Each member of a ControlTower cluster is connected to the central supervisor switch by a single trunk link, so the number of links grows in a linear fashion with the number of members. More or faster links may be added from an individual member back to the supervisor if bandwidth requirements increase, but this requirement is minimized with Ixia's advanced filtering capabilities.

Multiple members may be stacked in a single location and treated as a single, large chassis. This offers the

HIGHLIGHTS

- Ixia's ControlTower architecture solves some of the biggest problems facing service providers – the need for reliable solutions, rapidly increasing scale, robust management options, and improved business agility.

SOLUTION FEATURES

- NEBS Level 3 certification delivers validation of the ControlTower solution reliability
- Web-based interface provides easy integration to your existing infrastructure
- ControlTower frees your network from the constraints of a single box solution that limits deployment option.

SOLUTION BENEFITS

- Improves network visibility across your network to increase your monitoring solution ROI
- Deploy a centralized "farm" of cost effective, high-capacity security tools to monitor distributed buildings and segments monitored, collecting interesting traffic and bringing it back to the security tool farm for inspection
- Scale monitored segments and tools without increasing management overhead

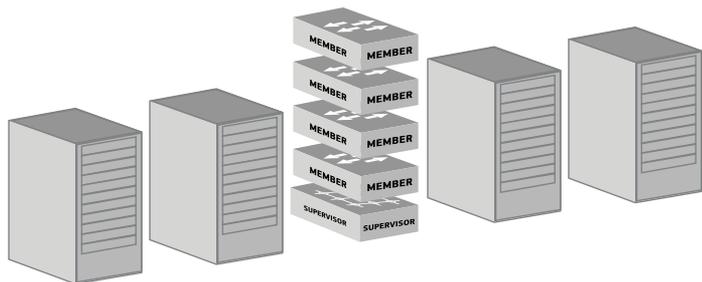
port density and ease of management of a single chassis solution, with the added benefit that there is no additional administrative overhead if some of the ports must be deployed in a remote equipment rack or building later.

Robust Management Options

The ControlTower architecture allows the complexity of the monitored network to grow without increasing the complexity of the network visibility solution.

The ControlTower architecture delivers a unique, built-in management capability for all members in a cluster. Each cluster consists of one controller and one or more members. This management capability uses the Ixia Net Tool Optimizer (NTO) element management system (EMS) to provide a single pane of glass interface for all members of a cluster. This user interface (UI) is intuitive and behaves like a traditional NTO EMS. The Ixia UI allows drag-and-drop provisioning, role-based access, and the ability to intuitively understand the filtering rules that

are currently in place. It doesn't matter if a single switch is being managed, or multiple switches spread across a network – the administrator is presented with a logical, single-chassis view and does not have to grapple with provisioning individual cluster members.



Another management option is to use the Ixia Global Management System which acts as an enhanced EMS to manage large scale deployments of Ixia NTO's. The Global Management System provides a clean interface that delivers extensive and powerful management features for bulk management activities.

A third management option is to use a 3rd party solution. Ixia supports a web-based API built upon a RESTful architecture. In addition, SNMP and SYSLOG are supported for further integration to 3rd party management systems.

Improved Business Agility

A key benefit of the ControlTower solution is that it can be integrated into your existing business processes. By using the RESTful interface, IT can help senior business managers achieve the business agility they are looking for. The RESTful API connection within ControlTower allows for a plethora of integrations to become possible. Some examples include: automation to existing equipment to facilitate central office automation initiatives, seamless integration to orchestration and provisioning systems, and integration to your SIEM security solutions to provide real-time responses to network anomalies and security threats.

Extensive Monitoring for Diverse Traffic

ControlTower offers extensive monitoring switch features (with the NVOs 4.1 and later software) that include: extensive filtering criteria, load balancing, de-duplication,

packet conditioning (MPLS stripping, GTP stripping, VLAN stripping), time stamping and port tagging. Detailed filtering criteria is easily created with the intuitive GUI that allows administrators to visually see the filters as they are enacted and make any corrections as needed in real-time. No CLI is required.

The ControlTower filtering capability starts when a packet first enters the member switch from the network. The Ixia solution performs a line-rate computation within the hardware to determine if an entering packet is needed by a monitoring tool connected to another member in the group. If the packet is needed, it is forwarded to the appropriate port on that switch. If, and only if, that packet is needed on another member, it is sent across the trunk links on the direct path between the two switches. This reduces bandwidth utilization on the trunk links, allowing different members to have different trunk speeds. This capability is important because most monitoring switches lack this sophisticated filtering technology. For those products, if a packet might be needed by another monitoring switch, it's automatically broadcast to every other switch in that group. As the utilization of monitored network segments increases, scarce interconnect trunk capacity becomes depleted and critical packets are often dropped before reaching the intended tools.

Whether it's increasing bandwidth demands, a rapid build-out of public or private cloud hosting facilities, the sharp rise in the number of segments requiring monitoring, or flexibility in deployment across a distributed geography, Ixia has developed a monitoring solution designed to meet your needs.

About Ixia's Network Visibility Solutions

The Ixia Anue Net Tool Optimizer® (NTO) provides complete network visibility into physical and virtual networks, improves network security and optimizes monitoring tool performance. The NTO ensures that each monitoring tool gets exactly the right data needed for analysis. This improves the way you manage your data center and maximizes return on investment.

For more information see <http://www.ixiacom.com>.

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