

CROSSBEAM ADVANCED TRAINING

COURSE DESCRIPTION

Crossbeam Advanced Training provides experienced professionals with expanded knowledge in designing, implementing and managing scalable, highly available Crossbeam Network Security solutions. Students also leverage established best practices to plan and architect the evolution of their network security environment.

Crossbeam Training Courses are designed by expert instructors who work with Crossbeam engineers to develop content for real-world success. Courses combine extensive training with hands-on lab sessions enabling practical application, unlocking the power of the Crossbeam platform.

AUDIENCE

This course is appropriate for experienced network and security professionals who are responsible for planning, designing, installing, and configuring, Crossbeam security solutions using the X-Series Platform. Enables students to effectively plan the future state of their network security environment.

COURSE LENGTH

This is a 4-day instructor led course.

PREREQUISITES

- Advanced networking skills (TCPIP, switching and routing)
- Obtained Crossbeam Certified Specialist certification
- Recommend six months or more hands-on Crossbeam experience

AVAILABILITY

The Crossbeam Advanced Training is delivered by Crossbeam Instructors in a classroom setting, either at Crossbeam facility or at the customer location.

COURSE OBJECTIVES

Upon successful course completion, students are able to:

- Present an in-depth understanding of the Crossbeam Operating System (XOS), the X-Series Platform architecture, and its hardware components.
- Utilize best practices to design highly-available security solutions optimized for the X-Series Platform.
- Utilize best practices when installing and configuring security solution on the X-Series Platform.
- Perform in-depth troubleshooting of security solutions on the X-Series Platform, including XOS software, hardware modules, applications, high availability and Secure Flow Processing (serialized application) configurations.
- Analyze traffic flows through the X-Series Platform and installed security applications.

CERTIFICATION

Students will demonstrate mastery of the course material through:

- A hands-on practicum troubleshooting security solutions on the X-Series Platform
- A written 100 question certification exam

Students who attend the class, complete the lab exercises, and pass the certification practicum and written exam achieve the Crossbeam Certified Expert (CCE) certification.

COURSE CONTENT

DAY 1:

Lesson 1: Crossbeam Architecture and Solution Design

- In-depth X-Series System Architecture
- XOS Software Overview
- Detailed Traffic Flow Processing
- Solution Design Guidelines
- Lab - Perform a planning exercise to ensure student understands architecture and the available solution options, as well as use Crossbeam best practice solution design guidelines.

Lesson 2: Crossbeam Advanced Configuration and Staging

- XOS Installation and Upgrades
 - Methodologies
 - Redundancy
 - Best practices
- Configuration Details
 - VLANs
 - Enabling SSH access to a VAP
 - Group interfaces - LAG, Bridge
- Resource Protection
- XOS Staging
- Lab - Perform initial XOS setup including installing XOS, creating a VAP group and flow processing components: circuits with LAG interfaces, flow rules, and configuring resource protection.

DAY 2:

Lesson 3: Secure Flow Processing

- Serialization concepts and design best practices in XOS
- Serializing applications at layer 2 and 3
- Lab - create a serialized configuration that includes a VAP group at layer 2 and one at layer 3; observe and monitor traffic through the two VAP groups.

Lesson 4: Dual Box High Availability (DBHA) using VRRP

- High Availability best practices
- DBHA design scenarios
- DBHA layer 2 solutions with STP
- DBHA layer 3 Solutions with VRRP
- Dynamic Routing
- Lab - Students will configure and test DBHA configurations using partner systems; students will perform failover tests, observe results, troubleshoot and solve any problems.

Lesson 5: IPS Security Solution

- IPS concepts and solution overview on the X-Series Platform
- IPS at layer 2 best practices
- Managing, monitoring and troubleshooting the solution
- Lab - Install IPS on a layer 2 VAP group; test ability to enforce policy, trace traffic and monitor system health.

DAY 3:

Lesson 6: Firewall Security Solution

- Firewall concepts, features; solution overview on the X-Series Platform
- Firewall at layer 3 best practices
- Managing, monitoring, and troubleshooting the solution
- Lab - Install Firewall on a layer 3 VAP group and test ability to enforce policy, trace traffic, and monitor system health.

Lesson 7: Troubleshooting: Tools, Techniques, and Best Practices

- How to use system files and logs
- Using Swatch, Netflow, and Statistics
- Differentiating hardware and software issues
- Performing a packet capture
- Troubleshooting RSW OSPF and BGP configurations using debugging option.
- Lab - Perform a detailed troubleshooting exercise using best practices and employing system tools and monitoring features to analyze and diagnose problems.

DAY 4:

Certification Exam

- Practicum Test - Students are presented with a pre-configured system that they must troubleshoot and solve for multiple issues in the configuration. The repaired system must be able to pass traffic through a serialized multi-application configuration. Students must log their fixes and prove traffic passes through both VAP groups. (2.5 hrs)
- Written Test - 100 questions 80% to pass (2.5 hrs)

ABOUT CROSSBEAM

We improve the sophisticated networks of enterprises, government agencies, and service providers by architecting platforms that are more adaptable, high-performing, reliable, and secure.