

Ekinops understands that your network is critical to the success of your business.

That's why the EKINOPS SERVICES portfolio includes the services that are essential to plan, build, operate and support a network that will deliver business-critical services with best-in-class performance.

As a service provider or network operator, you are constantly challenged to evolve and enhance the reliability of your network to ensure customer satisfaction.

EKINOPS SERVICES are designed to augment and enhance your existing operational support team. All of Ekinops optical service engineers and technicians have been properly trained to the highest industry standards.

— **That translates to greater productivity and higher quality of work.**

Benefits of using Ekinops Professional Services

- Reduce the time required for network and service activation
- Augment operational resources only when, and if, business dictates
- Easier to plan, budget and control operational costs
- Guaranteed highly trained and experienced contract help
- Your personnel can stay focused on key business goals & initiatives

PLAN

**NETWORK AUDIT | NETWORK PLANNING
NETWORK DESIGN | SITE SURVEYS**

Ekinops provides a number of services developed to help plan and design your network. We collaborate with you to plan and design a network architecture that meets both your short-term and long-term business objectives.

Our goal is to deliver a network that provides exceptional performance and reliability, yet it is cost-effective to operate, upgrade and maintain.

BUILD

**PRE-STAGING | EF&I | SYSTEM TEST PROVISIONING
DOCUMENTATION SERVICES**

Based on experience and structured processes, Ekinops service engineers deliver high quality, economic installation and implementation solutions that accelerate time-to-service and provide the foundation for enhanced stability and performance. For example, EKINOPS Pre-Staging Service is a managed integration process performed by experienced Ekinops technical service engineers in our state-of-the-art production facility.

The pre-staged activities result in Ekinops delivery of a completely configured and tested system ensuring that all elements work right out of the box while virtually eliminating the possibility of "DOAs". This significantly reduces the on-site installation, turn-up and testing expenses of the network operator and reduces time to service activation.

So no matter how many sites you have, or what level of deployment support you require, we have a cost-effective solution that can help your deployment and integration efforts.

OPERATE

TRAINING

The success of your business can be significantly affected by the reliability of your network — **downtime is not an option!**

To help ensure ‘always available’ network performance, Ekinops offers a variety of training services that can be leveraged to enhance the knowledge of your operational staff. With classes covering everything from the basics of DWDM to extensive overviews of the EKINOPS 360 hardware platform and **CelestisNMS** Network Management System, Ekinops training classes provide all the skills and knowledge you need to deploy, operate and maintain all of Ekinops solutions.

KEY BENEFITS OF A TRAINED STAFF

- Timely implementation & problem resolution
- Control operational costs
- Increase network availability
- Maximize network operational efficiency
- Increase in-house knowledge base
- Access to subject matter experts

LOCATIONS

In order to accommodate individual customer preferences, Ekinops offers several delivery options for training your staff*:

■ **ON-LINE (EKINOPS Support):** the EKINOPS Support website is a highly usable tool for obtaining immediate technical information for self-education, or to address particular questions or concerns related to your Ekinops deployed equipment. It is available 24 hours a day, 365 days a year.

*Simply go to the Ekinops website (www.ekinops.net), click on the ‘Support’ tab, and then click ‘Register’.
In a short time, you will have access to all the information relative to your Ekinops solution.*

** for in-person training sessions, whether at an ELC or Customer Site.*

■ **THE EKINOPS LEARNING CENTERS (ELC)** are the ideal locations for providing our customers with our most up-to-date training.

With facilities in France and the USA, Ekinops can accommodate customer personnel closer to their home base. At each facility, the student has access to all of EKINOPS resources including highly-trained Ekinops personnel to answer all of their questions.

■ **CUSTOMER SITE:** Ekinops recognizes that it is not always feasible for customers to send their staff to an Ekinops facility for training, that’s why we make on-site training available for certain courses. In these instances, EKINOPS will provide a true hands-on experience using the customer’s own equipment on-site.

SUPPORT

**SUPPORT AGREEMENT | HARDWARE REPLACEMENT | SOFTWARE UPDATES
REMOTE TECHNICAL SUPPORT | TROUBLE TICKETING | NEW RELEASE DOCUMENTATION**

Our Support Services include several packaged support programs that provide such things as: first-class technical support, priority hardware repair, maintenance software releases and exclusive access to Ekinops Technical Support website for self-help and education to enhance the knowledge of your network operations and support staff.

Customers can select the most cost-effective program based on their operational support needs.

Ekinops also provides a Support website for self-help and education to enhance the knowledge of your network operations and support staff. Customers can select the most cost-effective program based on their operational support needs.

PLAN Services

| PRODUCT CODE | PRODUCT NAME | DESCRIPTION |
|---------------|------------------|--|
| NTWK_AUDIT | NETWORK AUDIT | Complete customer network audit, including audit report which contains full audit details and recommendations for improving network performance facilities |
| NTWK_PLANNING | NETWORK PLANNING | Customer assistance with all aspects of network planning |
| NTWK_DESIGN | NETWORK DESIGN | Customer network designs for Ekinops equipment using Celestis design tool |
| INST_SVY | SITE SURVEY | On-premises site survey by Ekinops installation team to validate customer facilities are adequate to support a successful installation and commissioning process |



BUILD Services

EQUIPMENT PRE-STAGING

In addition to our standard installation and commissioning services, Ekinops offers to pre-configure and pre-test all systems before shipping to customers. This service greatly simplifies the deployment in the field, increases reliability and all but eliminates any “Dead-On-Arrival (DOA)” situations.

■ TESTS INCLUDE:

- Chassis powered up equipped with FAN and MNGT unit
- Verification of proper GUI and CLI operation
- Verification of proper FAN operation
- IP address and site name configured as required (*when available*)
- Pluggable Modules (PMs) slotted in chassis and verification of proper operation
- Traffic transport modules are configured for transporting the protocols required on customer network (*when available*)
- Traffic transport modules are tested for error free transmission during 12 hours test period

| PRODUCT CODE | PRODUCT NAME | DESCRIPTION |
|--------------|------------------------|--|
| STAGING | PRE-STAGING | See above |
| INST_STD | EF&I | Equipment installation, commissioning and acceptance testing |
| INST_RTA | RTA_EF&I | Remote technical assistance for installation and commissioning |
| INST_NMS | NMS_EF&I | CelestisNMS installation and commissioning |
| DOC | DOCUMENTATION SERVICES | Installation, commissioning and acceptance testing documentation |



OPERATE Services

TRAINING CLASSES

| PRODUCT CODE | COURSE TITLE | DURATION | PRE-REQUISITES |
|--------------|--|----------|--|
| TRA-001 | DWDM Basics Description: DWDM Network components (<i>Line Fiber, Optical Multiplexers, Optical Amplifiers,...</i>) DWDM Design Main Parameters DWDM Design Examples | 0.5 day | Basic knowledge of high-speed telecommunications |
| TRA-002 | EKINOPS 360 Platform Overview Description: Platform HW Architecture Platform SW Architecture Pluggable Modules (<i>PMs</i>) detailed description | 1.5 day | Basic knowledge of DWDM, SDH/SONET, Ethernet and OTN transport |
| TRA-003 | EKINOPS 360 Management Description: Management principles Web based Craft terminal CLI (<i>Command Line Interface</i>) SNMP Management | 1.0 day | Basic knowledge of SNMP Training Module TRA-002 |
| TRA-004 | EKINOPS 360 Installation & Maintenance Description: Installation, Start-Up, Configuration Hardware Maintenance Failures Guidelines Customer Network Architecture | 0.5 day | Training Module TRA-002 Training Module TRA-003 |
| TRA-008 | EKINOPS 360 RM_100xx Chassis Alien Wavelength Configuration Description: Platform HW Architecture Platform SW Architecture Management principles Web based Craft terminal CLI (<i>Command Line Interface</i>) SNMP Management, Installation, Start-Up, Configuration Hardware Maintenance Failures Guidelines | 1.0 day | Basic knowledge of DWDM, SDH/SONET, Ethernet and OTN transport |

OPERATE Services

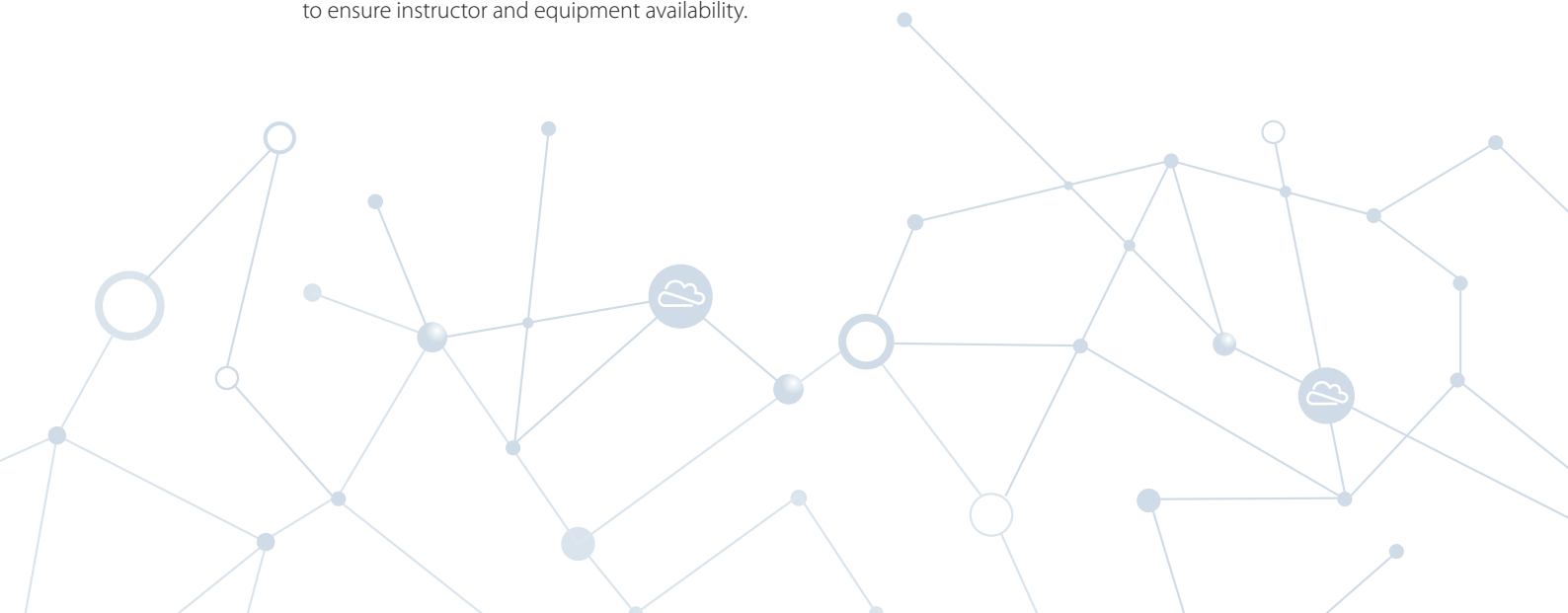
TRAINING CLASSES



| PRODUCT CODE | COURSE TITLE | DURATION | PRE-REQUISITES |
|--------------|---|----------|--|
| TRA-360 | <p>Full Training Course TRA-002, TRA-003 and TRA-004</p> <p>Description: Platform HW Architecture Platform SW Architecture Pluggable Modules (<i>PMs</i>) detailed description Management principles Web based craft terminal CLI (<i>Command Line Interface</i>) SNMP Management Site Installation, Start-Up, Configuration DWDM line tuning procedures Hardware Maintenance Failures Guidelines Customer Network Architecture</p> | 3.0 days | Basic knowledge of DWDM, SDH/SONET, Ethernet and OTN transport |
| TRA-NMS | <p>EKINOPS CelestisNMS Full Training Course</p> <p>Description: Celestis NMS Administration Creating Networks Creating Network Elements Managing a network (<i>viewing alarms, viewing inventory, configuration backup and restore, ...</i>) Topological links Services (<i>span, wavelength, client</i>) Creating/Deleting a Topological link Creating/Deleting a span service Creating/Deleting a wavelength service Creating/Deleting a client service Monitoring Tls and services</p> | 2.0 days | Training Module TRA-360 |

Notes:

- Price is based on a minimum of one (1.0) day of training.
- Price does not include travel and accommodation expenses.
- Number of students per course is recommended for a maximum of five (5) students.
- Detailed course outlines will be provided upon request.
- Training classes must be scheduled a minimum of six (6) weeks in advance to ensure instructor and equipment availability.



PROFESSIONAL SERVICES

SUPPORT Services

TECHNICAL ASSISTANCE

Key benefits for implementing a support agreement include:

- Priority support status
- Increase network availability
- Faster time to problem resolution
- Control operational costs
- Maximize network operational efficiency
- Priority access to subject matter experts
- Access to the on-line trouble ticketing system



HARDWARE TECHNICAL SUPPORT

HARDWARE & NMS TECHNICAL SUPPORT

| PACKAGE | BRONZE | SILVER | GOLD | BRONZE | SILVER | GOLD |
|--|----------------|----------------|-----------------------------|-----------------------|-----------------------|-----------------------------|
| PRODUCT CODE | SUPPORT_BRONZE | SUPPORT_SILVER | SUPPORT_GOLD | SUPPORT_BRONZE-HW-NMS | SUPPORT_SILVER-HW-NMS | SUPPORT_GOLD-HW-NMS |
| REMOTE TECHNICAL SUPPORT | Business hours | 24x7x365 | 24x7x365 | Business hours | 24x7x365 | 24x7x365 |
| ON-LINE 'EKINOPS SUPPORT' ACCESS | ■ | ■ | ■ | ■ | ■ | ■ |
| SOFTWARE UPDATES (MAINTENANCE RELEASES) | ■ | ■ | ■ | ■ | ■ | ■ |
| HARDWARE REPAIR & RETURN (IN WARRANTY) | ■ | ■ | ■ | ■ | ■ | ■ |
| HARDWARE REPAIR & RETURN (OUT-OF-WARRANTY) | — | ■ | ■ | — | ■ | ■ |
| ADVANCED REPLACEMENT | — | — | North America & Europe only | — | — | North America & Europe only |
| NMS TECHNICAL SUPPORT | — | — | — | ■ | ■ | ■ |

Note: All Technical Support packages are available in 1-year, 2-year, 3-year and 5-year options.

SUPPORT Services

TECHNICAL ASSISTANCE | GLOSSARY

Remote Technical Support

- Access to Ekinops Technical Support Center (TSC) engineers for remote technical support.

Business Hours

- North America: 8:00AM-6:00PM CDT (GMT-6), M-F
- EMEA & APAC: 08:00-18:00 CET (GMT + 1)

24x7x365

- Provides complete 24x7x365 access to Ekinops Technical (GOLD and SILVER Support Contracts)



On-Line 'Ekinops Support' Access

- Web access to the latest Ekinops product documentation and product notifications.

Software Updates (Maintenance Releases)

- Access to the latest generally available software updates, if and when available, for the Ekinops Supported Products.

Hardware Repair & Return (In Warranty)

- Equipment under warranty can be repaired through our standard RMA procedure. Please refer to the Ekinops Support Agreement for details.

Hardware Repair & Return (Out-of-Warranty)

- Equipment under Silver or Gold maintenance contract can be repaired through our standard RMA procedure. Please refer to the Ekinops Support Agreement for details.

On-Line Trouble Ticket System

- Access to the Ekinops on-line trouble ticketing system.
- Customers can create and track trouble tickets all the way through to issue resolution.

Advanced Replacement

- Express next-business day shipment of replacement hardware for all standard plug-in modules, active components, and shelves — Available in North America & Europe only.

NMS Technical Support

- Access to Ekinops Technical Support Center (ETSC) engineers for remote technical support related to Ekinops Celestis NMS network management system functions including general network operations, managed services operations, network fault isolation, service provisioning/removal, alarm monitoring and management and other operations.

ADDITIONAL Services

ON-SITE TECHNICAL SUPPORT

If an issue cannot be resolved by phone or remote access, Ekinops, at its sole discretion, may dispatch a TSE to the Customer site to continue and assist with the fault resolution effort.

NEW RELEASE DOCUMENTATION

Ekinops provides all new release documentation in electronic form. Customers that are registered on the SUPPORT section of Ekinops web site are automatically notified every time a new release has been posted with a link directing them to the on-line portal for easy access and downloading.

Documentation includes Release Notes and Product Bulletins detailing any new hardware, software and/or new features included in the newly posted release.

PRICING & AVAILABILITY

For pricing information, please contact your Ekinops sales representative, local sales office, or your local services organization.



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