



Working Effectively with Mellanox Support

Ensure your production effectiveness

September, 2017

Thinking service - A “problem solving and solution delivery oriented” team

Depth & Breadth - Providing a wide range of interconnect services and product support since 2002.

Expertise - Experienced and highly qualified employees, with over 15 years in the high-tech service industry.

Quality - Average tenure of 10 years, client facing experts who are repeatedly recognized for their excellence

Results - Sound instructional principles and strategies with proven track record for business impact and ROI

Focus - Our staff provides state-of-the-art training, deployment service and support



Mellanox Support Offerings



-  Standard Warranty
-  Bronze Advanced Hardware Exchange 1-2-3-4-5Y
-  Silver / Gold Hardware Support 1-3-4-5Y
-  Silver / Gold Support Standalone Software Support 1-3-4-5Y
-  Partner Assist Program 1-3-4-5Y
-  Supplemental System Support program
-  Per incident Support
-  Host services Support
-  Training and Deployment



Mellanox Support Packages



All Mellanox products feature a 1 year hardware warranty. If a failure occurs, return the product to Mellanox for repair or replacement.

	Bronze	Silver	Gold
Software / Firmware Updates	Web Only		
Committed response	Commercial Best effort	4 Hours	2 Hours / 30 Minutes for P1
Access to On-Line technical Training Center	No		
MyMellanox Access	No		
Email /Web/1800 toll free	Email only	8am – 5 pm M-F	24 x 7
Product Coverage	Hardware Repair Only	Hardware Firmware Server Software	Hardware Firmware Server Software
RMA Warranty Policy	Advanced Replacement (Next Business Day shipment)	Advanced Replacement (Next Business Day shipment)	Advanced replacement (Next Business Day shipment)

Support And Services Products

Advanced Services



- Technical Deployment
- Mellanox Care NOC
- Managed Services
- Proactive Health check
- HPC tuning

Education Services



- Instructor Led Training
- Partners Training
- InfiniBand Certification
- Online Academy
- Open Enrollment Classes

Technical Support



- 24x7x365 Technical Support
- GOLD/SILVER/BRONZE
- 4H / NBD Technician Dispatch
- Advanced Troubleshooting
- Return Authorization Material
- Knowledge Management

Service Provider and Regional Support Locations



■ Contact Customer service

- You can send an email to:
support@mellanox.com
- You can open a case:
http://support.mellanox.com/SupportWeb/service_center/SelfService
- You can call:
 - TAC Support= +1 (408) 916.0055
 - Toll-free (USA only): 86-Mellanox / 8663552669
 - APAC/EMEA TAC = ##-800-Mellanox or ##-800-8658247
 - Where ## is the IDD (International Direct Dialing Prefix

■ Hours Of Operation

- USA TAC – 9am-6pm (GMT -05:00) Eastern Time, Mon-Fri
- APAC/EMEA TAC – 9am-6pm (GMT +02:00) Jerusalem Time, Sun-Thu

- Customer Service is the organization responsible for providing technical support services, including:
 - Product guideline and Q&A
 - Hardware and software problem troubleshooting
 - Fault isolation, upgrades, fabric issues, etc.
 - RMA

Support Terminology – What is a Service Request (SR) Case?



- A service case ticket is your assistance request application to the Support Center
- Mellanox tracks every question or request for assistance to the Technical Support Center via a service case ticket
- Each opened service ticket receives a case number which allows us to prioritize and track your problem effectively
- Be sure to reference the case number when contacting support so that we can accurately track your case progress.
- The service request is associated with the customer's contract entitlement

Case Type and Severity Level

■ Different Case types

- Technical service request
- Feature Request – request for including a feature not initially planned in the product
- Bug – code malfunction causing the product not to behave according to the documentation
- RMA

- **Severity Level1 –Fatal** – Wide failure of enterprise and/or critical business impact
 - You experience a complete loss of service; work cannot be reasonably continued, the operation is critical to the business and the situation is an emergency.
- The Enterprise Network/SAN/NAS System is down and inoperable (hardware or software).
- There is a critical business impact.
- The problem is causing hangs and/or data corruption, and/or is security related without a workaround.
- A critical application is unusable. The workload is totally disrupted and no work is possible; no workaround or immediate solution is available.

- Severity Level 2 – **High** – Significant business impact

- You experience a severe loss of service. No acceptable workaround is available; however, operation can continue in a restricted fashion.

- Partial or a critical loss of functionality of the network/SAN/NAS (single product is down).
 - The problem prevents the end user from using the machine as originally intended.
 - Useful production is difficult because the system or software is failing to perform properly and/or reliably.
 - Regular failures are occurring, and the system is not completely unusable.
 - The problem is causing hangs and/or data corruption and/or is security related. Yet, a workaround is available.

■ Severity Level3 – **Medium** – Minor business impact

- You experience a minor loss of service. The impact is an inconvenience, which may require a workaround to restore functionality.
- Non-critical loss of functionality or performance degradation of the network/SAN /NAS (limited use).
- Inconveniency or performance problems where the system is functional and able to be used for its intended purpose.
- The System or software is not operating in a normal manner.
- There is a workaround an/or the problem is very intermittent.

Severity Level4 – **Low** – Minimal business impact – System is usable

- You experience no loss of service. The issue does not impede the operation of the system.
 - Minor issues such as errors in the documentation, general usage, questions, and recommendations for product enhancements and/or modifications.
 - The issue is causing error messages or other minor types of problems.
 - The problem is causing only a minor inconvenience, or the case is a request for information or a new feature.

- **Answering the following questions ensures your case is registered under the corresponding severity level:**
 1. Can you easily recover from, bypass or work around the problem? (Yes/No)
 2. Is your system or application functioning normally after the problem occurs? (Yes/No)
 3. Are the standard features of the system or application still available; is the loss of service minor? (Yes/No)
- **Severity Level 1 determination is based on the Yes/No answer provided to the question:**
 - Are you experiencing a business-critical loss of service that requires an immediate and continuous effort in order to resolve the issue?

- **For ‘Severity Level 1’ Cases**

- 24/7 Commitment: Mellanox Support works 24x7 until the issue is resolved or as long as useful progress can be achieved
 - You must provide a contact during this 24x7 period, either on site or by pager, to assist with data gathering, testing, and applying fixes.
 - You are requested to propose the case classification with great care, so that valid ‘Severity 1’ situations obtain the necessary resources allocation from Mellanox.

What Can you do?



- Make sure your case's severity correctly reflects the seriousness of the problem and inform us if the severity level changes.
- Please provide complete and objective information. Use our diagnostic tools to collect system information.
- Let us know your expectations and your opinion.
- Avoid reporting different problems in one case
- Review our knowledgebase
- Be prepared for a remote connection with our engineers

- **Provide a clear problem statement:**

- Is the problem reproducible?
- Test or Production?
- Review recent changes that were implemented.
- Review the How-to “Determine the Nature of the Problem” (next slide) and gather all the required information.

Determine the Nature of the Problem



- Try to determine the cause of the problem by answering the following questions:
 - What behavior are you experiencing?
 - What behavior do you expect?
 - When was the last time the software worked properly?
 - When was the problem first observed?
 - What has changed in your environment in the interim? (installing software, changing configuration, etc.)
 - When did the problem occur?
 - When does the problem not occur?
 - What is the difference between the later two situations?
 - How extensive or localized is the problem?
 - What is the difference between the elements that exhibit the problem and those that don't?
 - How critical is this problem to your development or deployment?
 - Can you work around it until a fix is found?
 - Is there a better way to implement the software that would make the problem disappear?
- After determining the nature of the problem, kindly be as specific as possible with the information you provide us.
- Determine the exact steps required to reproduce the problem.

Questions to Help Us Understand Your Environment



- Provide the environment details
- Can we do a remote connection session?
- Do you have multiple/single test environments?
- Do your test environments mirror production?
- Does your implementation schedule allow adequate time for testing?
- Do you have the knowledge and relevant personnel to handle the products involved?
- Do you maintain a system logbook to track changes?
- Do you have a process that manages patches and patch testing?

Case Life Cycle State



Open - New in unassigned queue – Pending support agent assignment

Assigned - Case is assigned to a support agent

Waiting for Customer Info - Case is pending customer to provide debug and troubleshooting information

Waiting for Customer to apply Patch – Case is pending customer to apply patch

Waiting for Customer Approval – Case is pending customer approval for closure – will automatically close after 14 business days

Closed – Case Closed problem resolved

Open AE – Case is assigned to sustaining engineering queue

Assigned AE – Case is assigned to sustaining engineer

Wait for Release – Problem is pending bug fix to be released in future release

On Hold – Case is on hold – no activities

Feature-Request/Doc-Change

RMA Assigned - RMA Case opened and assigned

RMA Approved - RMA approved to ship/ repair

RMA Canceled – RMA request canceled

- **Case Survey mail notification is sent to you when the SR gets closed so you can:**
 1. Tell us about your opinion on the service received on that particular SR
 2. Help Support Management to evaluate and take actions accordingly

Case Escalation

- In some cases, the case resolution process may not match your business needs. In such cases, you can escalate your Service Request.
 - For example:
 - Project milestone is on a critical path.
 - Erroneous functionality is causing major extra work/costs for the business and more progress towards resolution is required.
 - Acceptance of testing gets delayed.
- Raising Severity vs. Escalations
 - If the **Severity level** of the SR is mismatched over time, it may be raised by mutual agreement between the Technical Support representative and the customer.
 - **Escalating** an issue brings more attention to it, and when needed, more resources. This doesn't mean that the 'Severity Level' of the SR will be automatically changed.

- Mellanox Support Team relies on the customer to communicate the relative importance of critical issues. The information communicated to the customer support must be accurate for the escalation to take place.
- What is your escalation criterion?
 - Project deadlines?
 - Lost revenue?
 - Government reporting?
 - Users at your door (CIO/CFO)?
- How to request escalation:
 - Updating the case with requesting escalation
and/or
 - Calling Support to request escalation

Nevertheless, the customer is expected to provide justification for the escalation request.

- **Manager escalation mutual expectation:**
 - Agree on a proposed action plan, including identifying owners for each action
 - Ensure escalation milestones
 - Implementation dates are clearly understood
 - Agree over the date and time of the periodic updates
 - Agree over the de-escalation criteria

- **Is the progress still unsatisfying?**
 - You can consider escalating to the next Management level (Sr. Manager, MNG director ,VP).

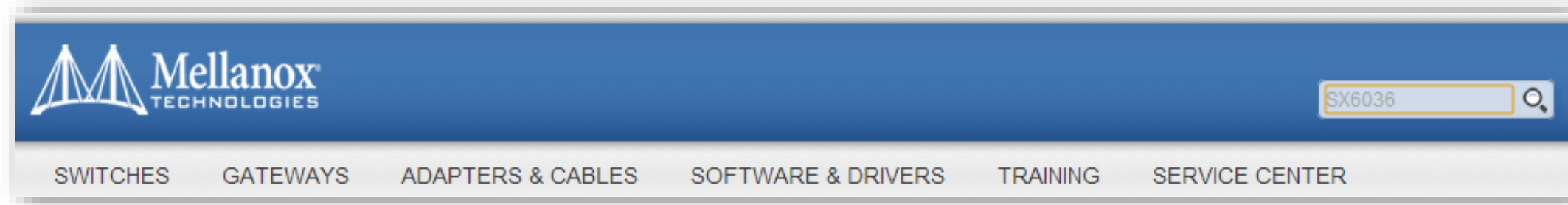
MyMellanox

The Customers' Support Web

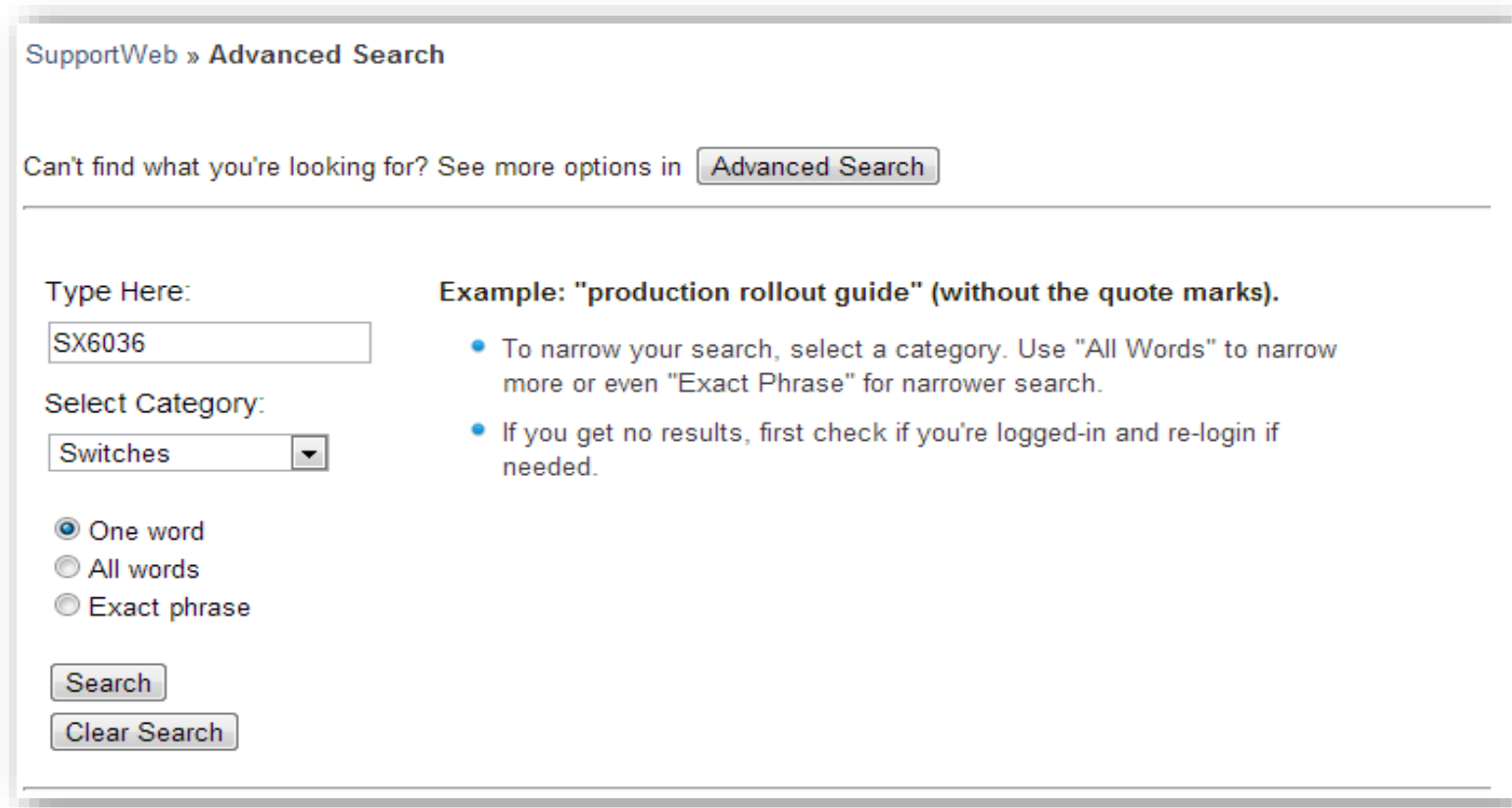
MyMellanox is the one-stop-shop for Mellanox's customers.

- Customized view and access to products according to your account
- Download SW, FW, patches, and documents.
- Access to useful knowledge articles: FAQs, HowTos, Critical Advisories, and CommonError.
- Search for files, products, and more (advanced search also available).
- Online Chat
- Subscribe to your products and get notified upon new/updated releases and product advisories
- Manage your Returns (RMA)
- Manage your cases with customer support
- Manage your contracts
- Manage your licenses
- And more...

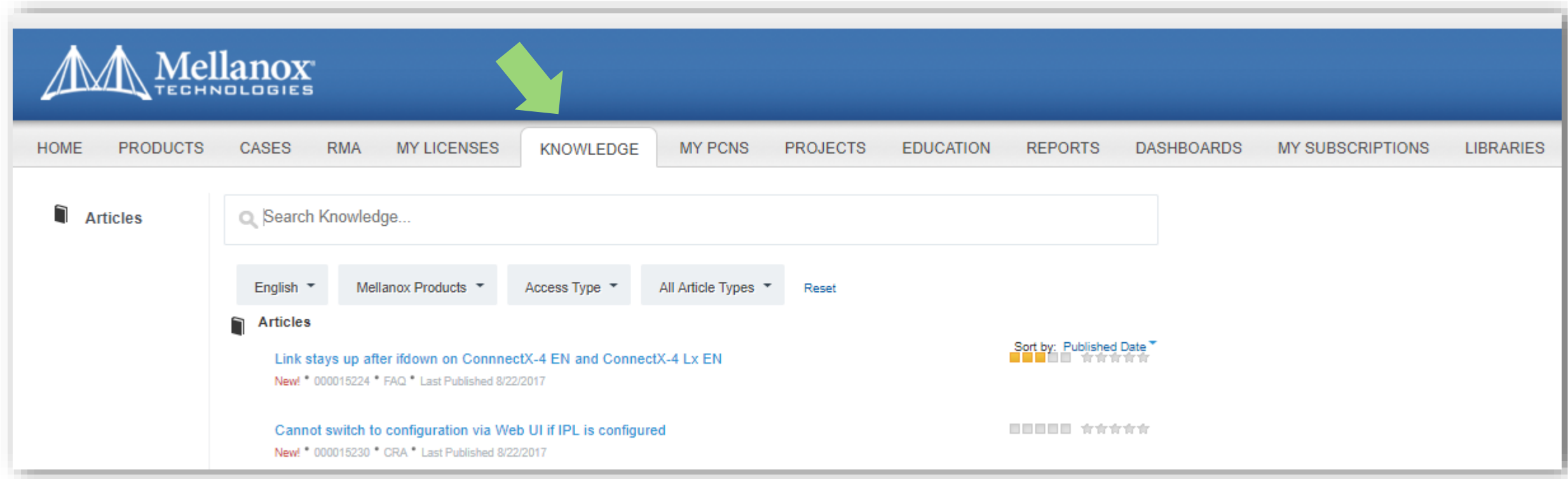
- Use the Search function to locate information and solutions faster in the MyMellanox database.



- Use the Advanced Search to focus your search.

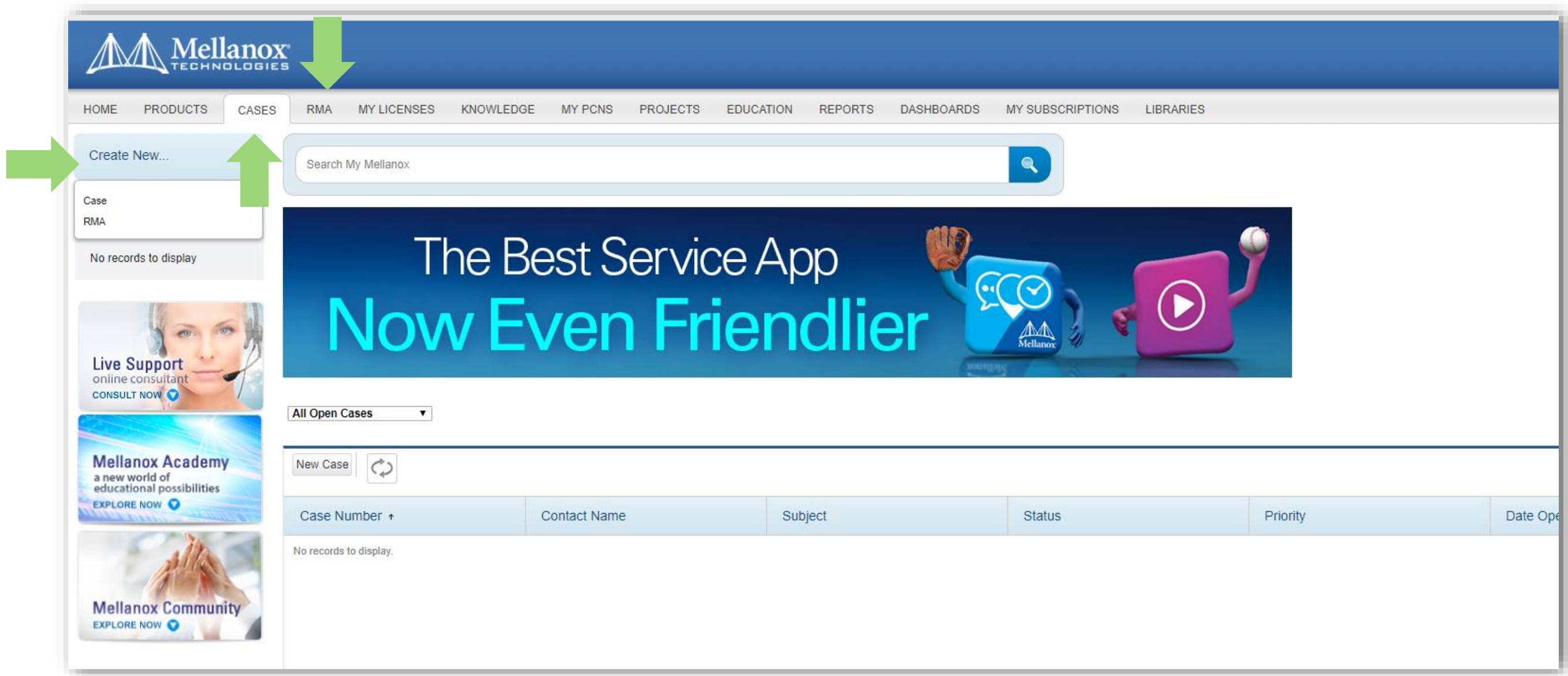
A screenshot of the "Advanced Search" page on the Mellanox SupportWeb. The page title is "SupportWeb » Advanced Search". Below the title, it says "Can't find what you're looking for? See more options in" followed by a button labeled "Advanced Search". The main search area has a "Type Here:" label and a text input field containing "SX6036". Below this is a "Select Category:" label and a dropdown menu currently showing "Switches". There are three radio button options: "One word" (selected), "All words", and "Exact phrase". To the right of these options, there is an "Example: 'production rollout guide' (without the quote marks)." followed by two bullet points: "To narrow your search, select a category. Use 'All Words' to narrow more or even 'Exact Phrase' for narrower search." and "If you get no results, first check if you're logged-in and re-login if needed." At the bottom left are two buttons: "Search" and "Clear Search".

- Choose the **KNOWLEDGE** tab and gain access to hundreds of knowledge articles.
- Sort your search according to product, access type and article type.
- Some documents are also available in Chinese!



Your Cases

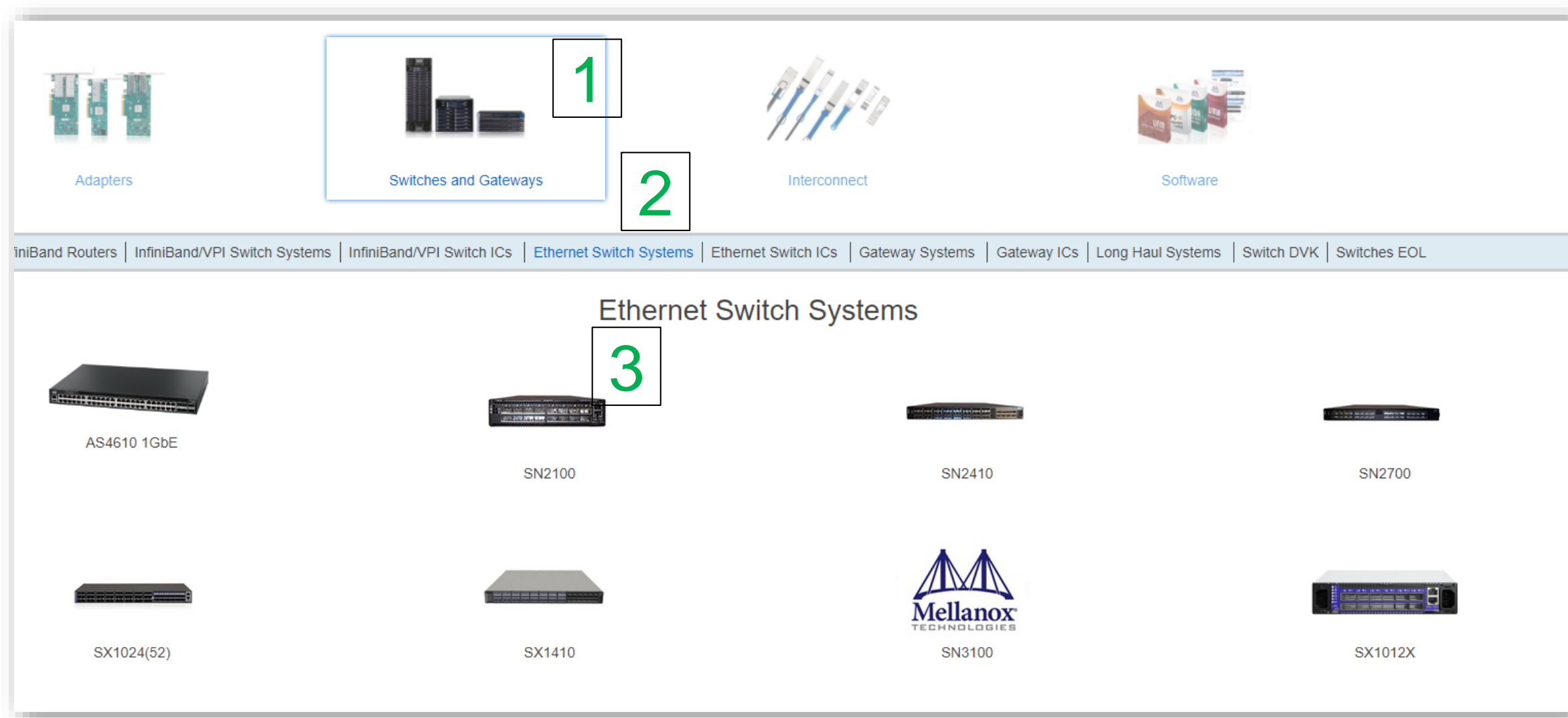
- You can manage all your cases and RMA online:



The screenshot displays the Mellanox support portal interface. The top navigation bar includes links for HOME, PRODUCTS, CASES, RMA, MY LICENSES, KNOWLEDGE, MY PCNS, PROJECTS, EDUCATION, REPORTS, DASHBOARDS, MY SUBSCRIPTIONS, and LIBRARIES. The 'CASES' tab is selected. On the left sidebar, there is a 'Create New...' dropdown menu with options for 'Case' and 'RMA', and a 'No records to display' message. Below this are promotional banners for 'Live Support', 'Mellanox Academy', and 'Mellanox Community'. The main content area features a search bar, a banner for 'The Best Service App Now Even Friendlier', a dropdown for 'All Open Cases', a 'New Case' button, and a table with columns: Case Number, Contact Name, Subject, Status, Priority, and Date Opened. The table currently shows 'No records to display.'

Downloading User Manuals and Software/Firmware


1. Navigate to the product page by choosing the family product (1) and category (2).
2. Choose the desired product (3)



Download Firmware and Software



- To download the latest Firmware or Software version available for your product, click on the “Download” tab and use the refinements on the left to reach the desired files.



MLNX_OFED

Subscribe

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PRODUCT ALERTPlease click here and read the product alert before downloading!

File/Document Type

☐ Software Image☐ Release Notes☐ Tools & Utilities

Version

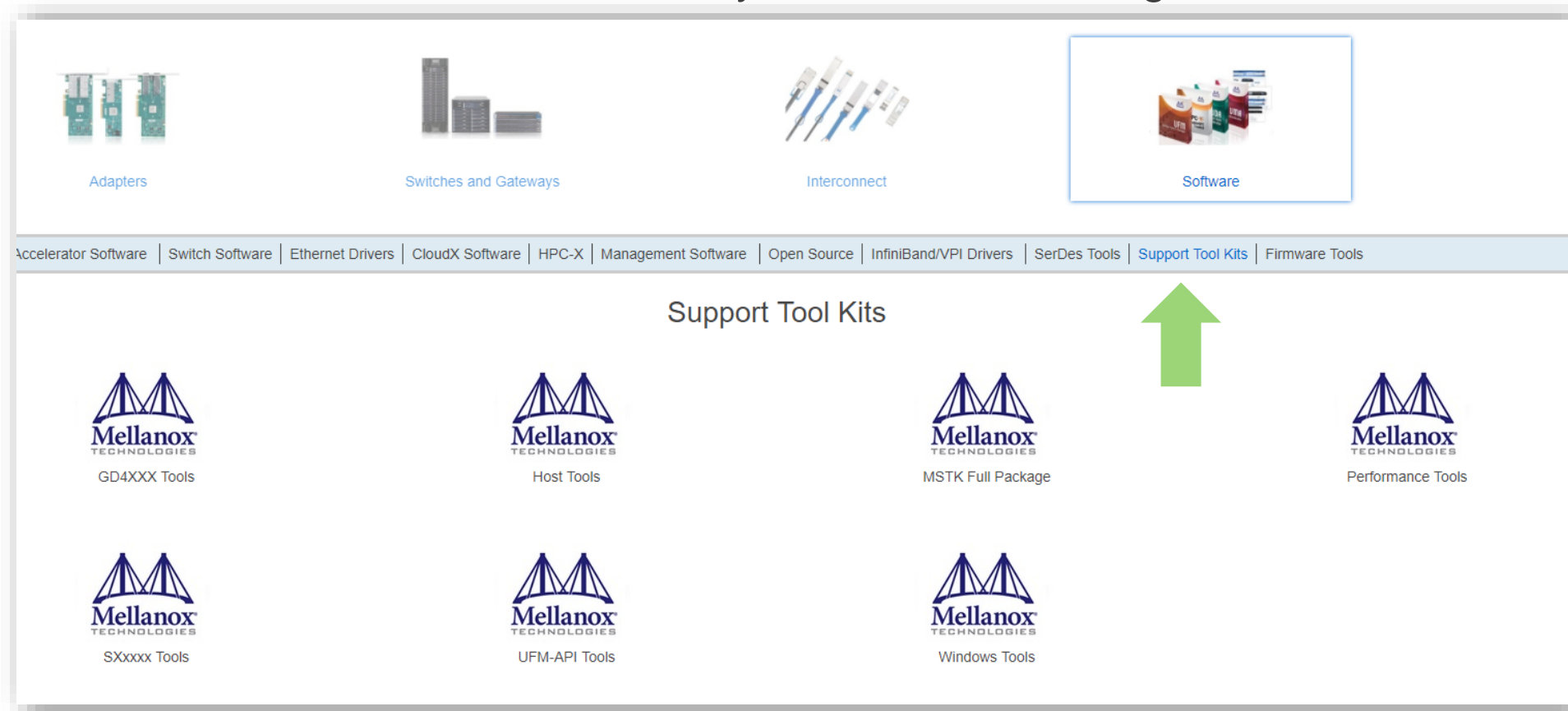
☐ General☐ 4.1-1.0.2.0☐ 4.1-0.0.8.0.5☐ 4.0-2.0.0.1☐ 4.0-1.0.1.0

See All

DownloadClick this button to download selected items

<input type="checkbox"/>	Title	Details/Notes	File/Document Type	Size	Version	Release Date
<input type="checkbox"/>	MLNX_OFED_SRC-debian-4.1-1.0.2.0.tgz		Software Image	43 MB	4.1-1.0.2.0	7/6/2017
<input type="checkbox"/>	MLNX_OFED_SRC-debian-4.1-1.0.2.0.tgz		Software Image	43 MB	4.1-1.0.2.0	7/6/2017
<input type="checkbox"/>	MLNX_OFED_SRC-4.1-1.0.2.0.tgz		Software Image	40 MB	4.1-1.0.2.0	7/6/2017
<input type="checkbox"/>	MLNX_OFED_SRC-4.1-1.0.2.0.tgz		Software Image	40 MB	4.1-1.0.2.0	7/6/2017
<input type="checkbox"/>	MLNX_OFED_SRC-4.1-1.0.2.0.tgz		Software Image	40 MB	4.1-1.0.2.0	7/6/2017

- Under “Software -> Support Tool Kits” you will find many tools that helps you manage the fabric.
- Among those tools, you can find the “System Snapshot” tools which gathers useful information about your system.
 - The support team will ask you to download and run the relevant System Snapshot tool for your system.
 - The output of those tools contains information about the server and the fabric, and it will enable the support team to better understand the issue you are encountering.



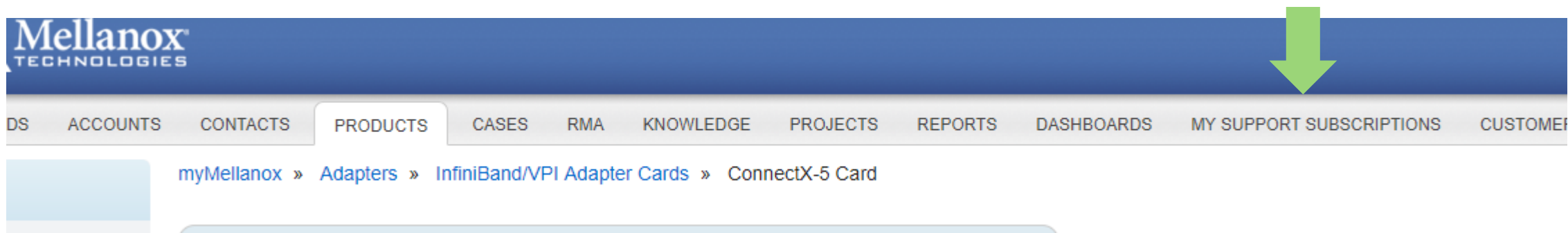
Subscription





- Subscribe to products of your interest to stay up-to-date with the latest releases and technological updates.



- You can manage your subscription via the “My Support Subscription” tab.



- Use our Online Chat to talk with our support team online.



Mellanox Tech Support Live Chat

Our Support experts are ready to assist you with technical issues for any Mellanox related product and more.

Tell us what would you like to chat with us about?

NOTE: If you have trouble connecting via Live Agent and need our assistance, please call us at [+1 408.916.0055](tel:+1408.916.0055).


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Live Support
online consultant
[CONSULT NOW](#)



Mellanox Academy
a new world of
educational possibilities
[EXPLORE NOW](#)



Mellanox Community
[EXPLORE NOW](#)

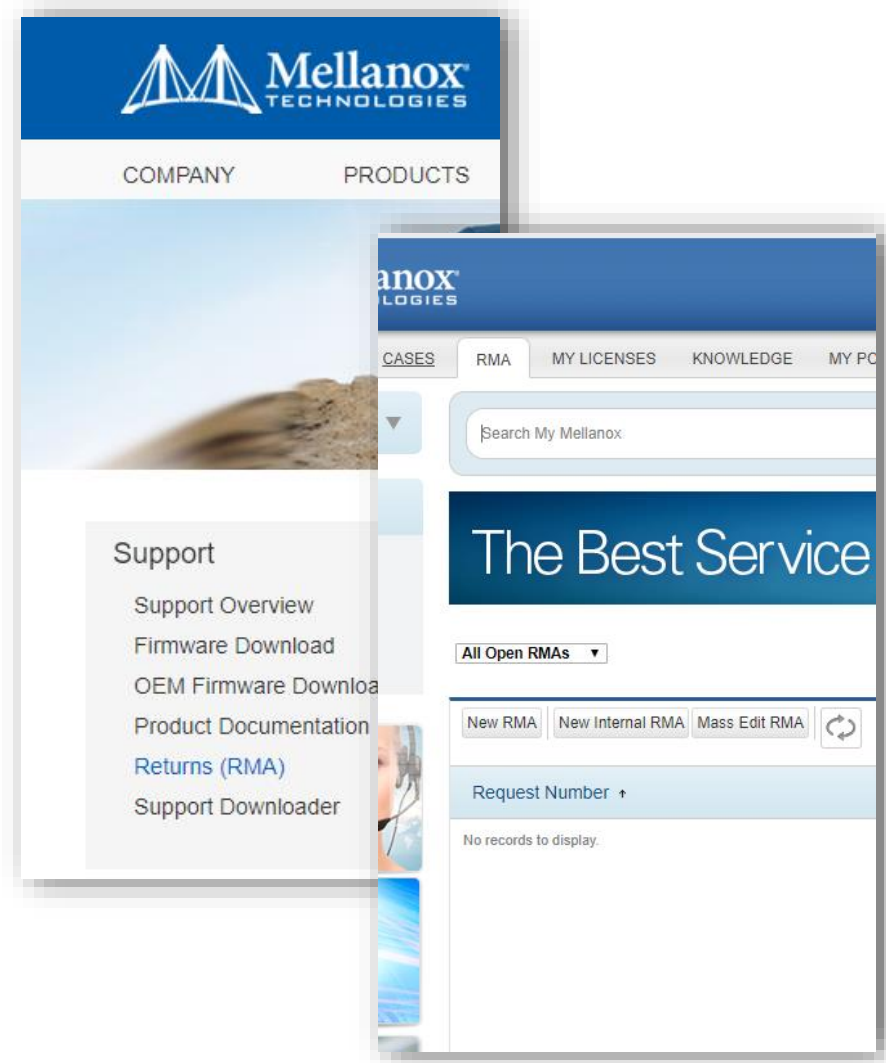
RMA

Return Material Authorization

Returns (RMA)



- To return a product for a repair or a replacement, please complete and submit the [RMA Request Form](#).



☒ I understand and accept Mellanox RMA terms

Requester Information

Name	<input type="text"/>	Date Submitted	<input type="text" value="8/31/2017"/> [8/31/2017]
Email	<input type="text"/>	PO# for replacement (optional)	<input type="text"/>
Phone	<input type="text"/>	Case Number	<input type="text"/>
Fax	<input type="text"/>	Request Failure Analysis report - The FA report will be released to the customer within 14 days after the material is received at the Mellanox Lab	<input type="text" value="No"/>
Equipment Location	<input type="text" value="--None--"/>	Ship to Export Processing Zone - Customer to handle customs clearance	<input type="text" value="--None--"/>

Bill To

Company	<input type="text"/>	Address	<input type="text"/>
Contact	<input type="text"/>	Address	<input type="text"/>
Phone	<input type="text"/>	Country	<input type="text" value="- None -"/>
		City/State	<input type="text"/>
		Zip	<input type="text"/>

☐ Ship To same as Bill To

Ship To






Company	<input type="text"/>	Address	<input type="text"/>
Contact	<input type="text"/>	Address	<input type="text"/>
Phone	<input type="text"/>	Country	<input type="text" value="- None -"/>
		City/State	<input type="text"/>
		Zip	<input type="text"/>

Checking Assets' Warranty Status

- You can also check the [warranty status of your assets online](#).
- Fill in the Serial Number, and click on “SUBMIT”.

Support » Check Your Service and Support Coverage

SHARE

Contact Support

Mellanox Call Center
+1 408.916.0055

Toll-free (USA only):
86-Mellanox (8663552669)

Email:
support@mellanox.com

Check Your Service and Support Coverage

Review your warranty status and eligibility for support and extended coverage.

Enter up to **20** Mellanox serial numbers (one per line).

Serial Numbers *

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RMA – Prior to Submitting the RMA Request



Check our [Guidance and How-To Video](#).

- Before submitting the RMA request:
 1. Check that the product's warranty is still valid.
 - Please note that we cannot approve RMA requests for out of warranty assets.
 2. Review the recommended troubleshooting [checklist](#).

RMA - Troubleshooting Checklist



- Based upon our prior experience, a short troubleshooting session may reveal the root cause of a failure and prevent redundant shipment of parts.
- Please review the [recommended troubleshooting checklist](#) prior to submitting an RMA request.

- Checklists are provided for the following Mellanox product types (assets):
 - Network Adapter Card
 - Switch Power Supply and Fan FRU (Field Replacement Unit)
 - Remotely-managed (Unmanaged) Switch
 - Managed Switch
 - Switch Leaf/Spine Module
 - Cable

RMA – Filling the Form



1. Please fill in your details; contact info, Bill-to and Ship-to addressed.
2. For each faulty asset, please enter the S/N, P/N, a detailed problem description (including the troubleshooting steps you performed) and check the DOA flag (Yes/No).
 - Products count as DOA if they're faulty within 90 days of the shipping date.
3. By default, you can enter up to 5 serial numbers in the RMA form. If you need to submit an RMA request for more than 5 assets, please click on “Add Serial” as needed.

A screenshot of the RMA form interface. It includes fields for '5 Part Number', 'Serial Number', and a 'DOA' dropdown menu set to '--None--'. Below these is a 'Problem Description' text area. At the bottom of the form, there are two buttons: 'Add Serial' (circled in red) and 'Remove Serial'. At the very bottom, there are three buttons: 'Submit RMA Request', 'Reset', and 'Cancel'.

4. Finally, click on “Submit RMA Request”.

Mellanox Demo Center

Live Experience of Mellanox's Products!

- The demo center is a fully featured, integrated and globally available demonstration environment provided by Mellanox for use by our field engineers, partners and customers. On the demo center, users can play with, experience and explore Mellanox's hardware, features, software and products using dedicated lab environments.
- For more information, customers can contact their Sales Engineer / Field Engineer.

GENERAL

Home

Environments

Reservations

DEMONSTRATION

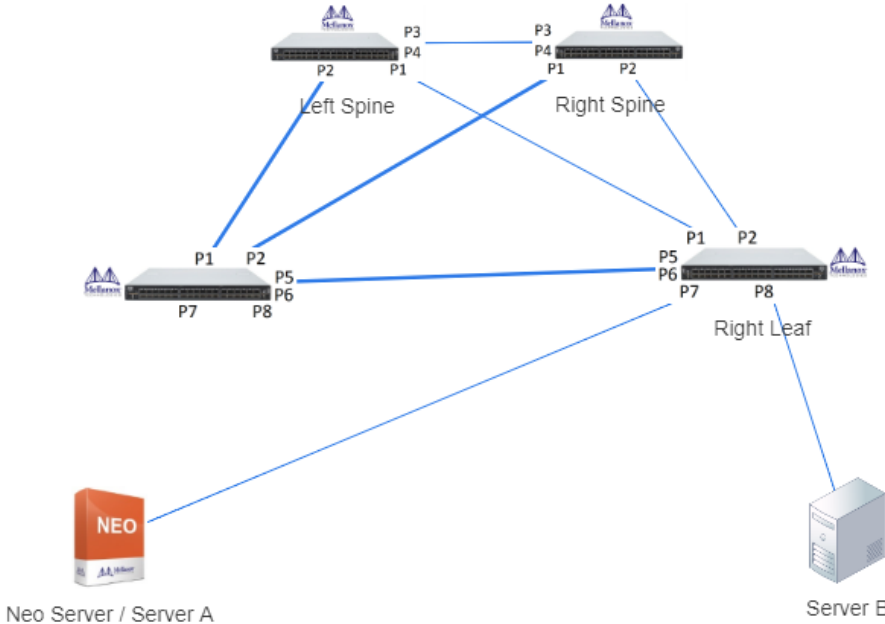
GaugeX

Coming Soon

MLAG 100GbE Ethernet

Network Map

A view of the environment map. Click on a resource to view more details.



Neo Server / Server A

Server B

Reservation

Reserve

Resource Information

Name:	*****
IP:	*****
Type:	Switch
Model:	SN2700 32 port Spectrum based 100GbE (Panther) switch
Function:	N/A

SSH HTTP

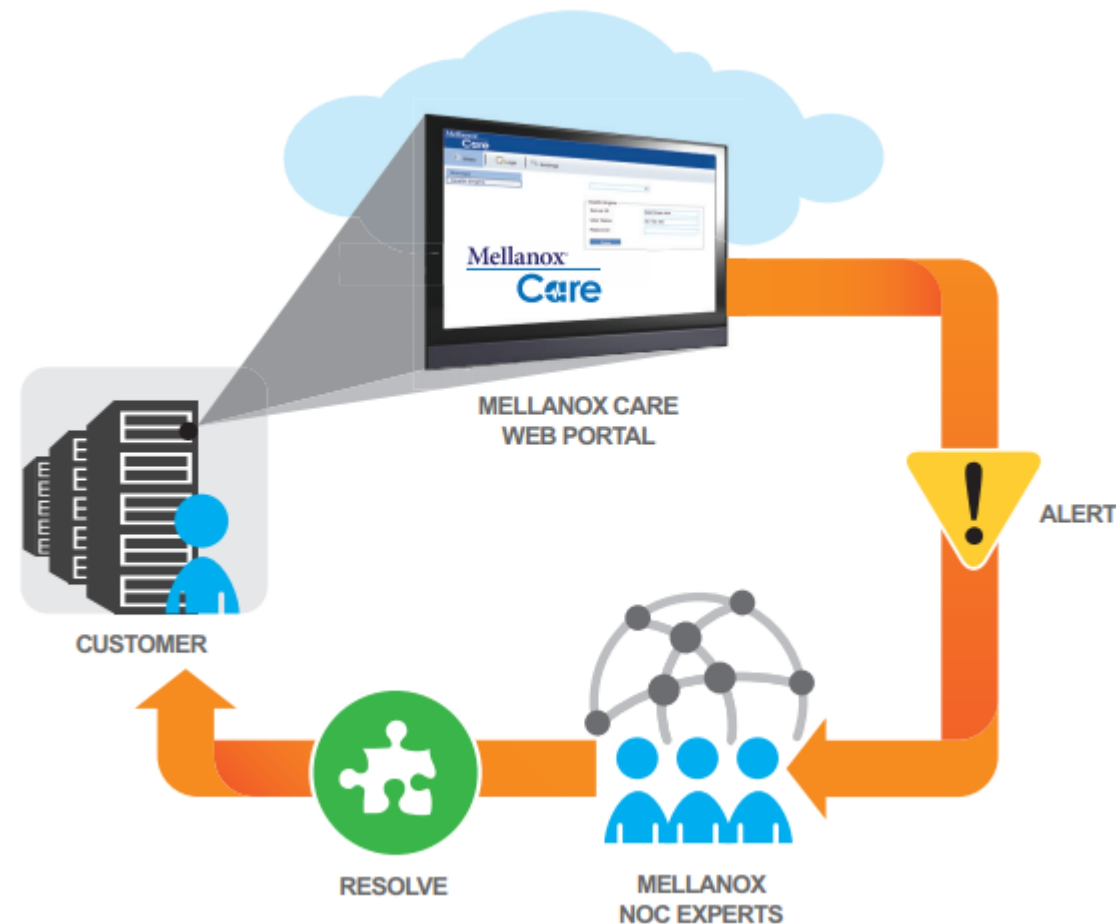
Cables

Diagnostic and Monitoring Tools and Services

Solve the Problem Faster and Save Your Time

Mellanox Care – Proactive Care Platform

- Mellanox Care is a 24/7 fabric management services provided by Mellanox networking experts, aiming to diagnose and identify potential fabric issues and risks in order to proactively prevent any crucial network events.
- For more info [click here](#).



■ Performance tools

- mlnxperftuner
 - Mellanox performance tool, run with --view, to show performance tuning suggestions, and with --allow_changes to tweak the OS
- cpu_performance.sh
 - Set CPU frequency to maximum
- set_irq_affinity.sh
 - Distribute evenly across cores
- show_irq_affinity.sh
 - Show current affinity
- set_irq_affinity_bynode.sh
 - Assign to a NUMA node
- Mellanox_tuning_tools.gz
 - Mellanox_OFED performance tuning scripts
- Gaugex
 - A performance tool which measures the TCP bandwidth, RDMA bandwidth, RDMA latency, and RDMA message rate between two given interfaces (contact our support at support@mellanox.com for more info).



■ SXxxxx Tools

- CommandsForSX.pl
 - Run predefined commands on multi MLNX_OS switches, and write output into a text file
- Unmanaged_Switches_Set_NodeDescription.py
 - Change the node description of unmanaged Mellanox Infiniscale4 and SwitchX switches

■ Host tools

- `ib-find-bad-ports.sh`
 - Scan all fabric ports for reduced width and speed ports – You can run it on any server that runs OFED
- `ib-find-disabled-ports.sh`
 - Scan all fabric ports for disabled ports – You can run it wither from any server that runs OFED, or from the 4036/2036 switches
- `ib-find-sm.sh`
 - Scan all fabric for active subnet managers – You can run it either from any server which runs OFED, or from the 4036/2036 switches
- `ib-mc-info.sh`
 - Show Multicast (MC) group join information for IB nodes (who is joined to what group) and IB MC groups (what nodes are join to a specific group) – You can run it from any server with Mellanox OFED
- `ib-mc-routing.sh`
 - Shows MC groups spanning tree switches and ports. Use this tool to provide Mellanox engineers the required MC routing debug information – You can run it from any server with Mellanox OFED
- `ib-mgid-to-ip.sh`
 - Shows Multicast Group information and convert Multicast Group ID to real IP – You can run it from any server which runs Mellanox OFED

■ Host tools

- `ib-topology-viewer.sh`
 - Provide a simple fabric topology high level outlook using switch to switch and switch to HCA total port connected count information. Use this tool to look for miss cabling and CLOS topology violations – You can run it from OFED
- `ib-trace-counter.sh`
 - Trace InfiniBand counter in unicast/multicast path from a source LID/hostname to a destination LID/hostname – You can run it from any server with OFED
- `ib-trace-rt.sh`
 - Trace InfiniBand path from a source hostname to a destination hostname – You can run it from any server with OFED
- `ibutils.tar.gz`
 - `ibutils2` latest package
- `mellanox-disable-sm.pl`
 - Disable all 4036/2036 Sm's for all switches according to the ip addresses given in the file – You can run it from any server
- `sysinfo-snapshot.rar`
 - Collect information on host – output is saved under `/tmp`

■ UFM-API tools

- `ufm-add-nodes-to-rack.py`
 - Add given nodes (file or pattern) to a specific rack
- `ufm-add-to-ls.py`
 - Create/Add servers (GUID file/hostname file) to specific logical server group
- `ufm-show-congestion-map.py`
 - Show a real time congestion map of the fabric
- `ufm-dump-env.py`
 - Dump an output of the components in the fabric
- `ufm-auto-update-switches-ip.py`
 - In case there is no UFM running on the nodes or the MC is disabled on MGMT network, some switch properties/UFM functionalities will not be recognized/available by UFM
- `get-fabric-pkeysTable.py`
 - Show the fabric pkeys table
- `ufm-print-sn.py`
 - show the switches serial numbers

■ Windows tools

- Windows System Snapshot
 - Collect information on host, output is saved by default under Desktop.
- mlxWinStat
 - A small tool to query the eth and IPoIB statistics on windows (similar to “ethtool –S” on linux). compiled on Windows Server 2008 R2 (x64)
- devicetool
 - Display Devices Mode in windows (works for 64-bit only)
- Pciutils
 - Display PCI device status in Linux lspci style

- The “Sysinfo-Snapshot” tool, for Linux, Windows, and Vmware, gathers useful and essential information about the fabric and the system.
 - The output of these tools contains information about the server and the fabric, and it enables the support team to better understand the issues encountered.
- The System Snapshot tool is located under:
 - Software -> Support Tool Kits -> [Host Tools](#)

Remote Session Support

WebEX

■ Using WebEx:

- The customer can decide on allowing the Support Member to have a mouse/keyboard control.
- The customer can share their desktop, applications or individual windows while exposing only the required relevant information.

■ When and why will it be used?

- To observe the issue before attempting to replicate the problem
- To verify that the solution provided works
- Whenever it is the most effective troubleshooting method; to save time and correspondences
- To improve the customer's experience of the support service
- Whenever proactive support is needed
- To reduce resolution time
- Less SRs are re-opened and the issue is less likely to be escalated
- To develop a more trusty-interpersonal relationship with the customer



Thank You