

# NE-ONE v2023.02.1194 Release Notes

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Document Reference: ITR-020-01

**Please read this document carefully if you're upgrading from another version or another product in the NE-ONE product family.**

## General Information

NE-ONE v2023.02 is the logical successor to:

- NE-ONE v2022 (all previous versions)
- NE-ONE Enterprise v2021.02
- NE-ONE v5.0
- INE Enterprise/INE Ultra v9.0

This release has a lot of enhancements, improvements and fixes, as can be seen from the full list below.

Please note that if you use the console's change password feature to change the password for the user `neone`, it will also change the password for `itrinegy` to the same value. This is to prevent `itrinegy` being accidentally left with a legacy insecure password. [The new console username `neone` was introduced in v2022.08.936 and will replace the old console username `itrinegy` in future.] Please therefore change to using the username `neone` as soon as possible.

If you are running any v2021 or v2022 versions and are not yet using at least v2022.08.936 you should upgrade to this version as it contains all the many benefits (features and fixes) from version v2022.08.936.

Note for INE v9 and NE-ONE v5 users: NE-ONE v2022-23 merges INE v9 and NE-ONE v5 together into one product under a unified Web GUI, in a process that started with NE-ONE Enterprise v2021. The product is called simply **NE-ONE v2023** (previously NE-ONE v2022), though you may see it referred to under two names in various documents, websites and publications.

- NE-ONE Enterprise v2023
- NE-ONE Professional v2023

These are the same software base (NE-ONE v2023) with different feature sets enabled.

## Information for NE-ONE v2022 users

NE-ONE v2023 will seem very familiar to you. This version is a direct upgrade from NE-ONE v2022.

The upgrade is performed by using the standard method. Use the Web GUI to go to: Management [menu]→Platform settings→Software Update and then upload the appropriate update file (.itu file). It will take several minutes to complete.

If you're currently using NE-ONE (Enterprise or Professional) v2022.01.630 or lower please read the points below, otherwise skip over them, as it is a standard upgrade including new features, improvements and bug fixes as detailed.

1. Before upgrading please note the serial number of your system (if hardware) or the current *License Id* (hardware or virtual) - which you can get from Management [menu] → Platform Settings → License)
2. The *License Id* (aka fingerprint) will change after this upgrade. From the homepage please click License Now and email your new *License Id* to [support@ne-one.com](mailto:support@ne-one.com) together with the serial number or the old *License Id* we will update this on your records so you can get an updated licence key

## Information for NE-ONE v2021 users

If you're currently using NE-ONE (Enterprise) v2021.02.x please read this section, otherwise skip over it.

NE-ONE v2023 will seem very familiar to you. This version is a direct upgrade from NE-ONE (Enterprise) v2021.02.

You can upgrade from v2021.02.275 or v2021.02.398 or v2021.02.437 with a standard upgrade kit (.itu file), however please note the following:

1. Before upgrading please note the serial number of your system (if hardware) or the current *License Id* (hardware or virtual - which you can get from Management [menu] → Platform Settings → License)
2. The upgrade will take quite a lot longer than usual (allow at least 15 minutes after the patch has uploaded). This is because the underlying operating system and associated packages are also upgraded from Ubuntu 18 LTS to Ubuntu 20 LTS
3. The *License Id* (aka fingerprint) will change after this upgrade. From the homepage please click License Now and email your new *License Id* to [support@ne-one.com](mailto:support@ne-one.com) together with the serial number or the old *License Id* we will update this on your records so you can get an updated licence key
4. After the upgrade your admin password will be reset to the default (admin) which should be changed as soon as possible. Other users will require a new password to be set by the admin, which they can later change. This is because we have enhanced password security under Ubuntu 20, and as it is (clearly) not possible to decrypt a user's current password and re-encrypt it, so they must be reset.

# Information for NE-ONE v5 users

If you're currently using NE-ONE v5 please read this section, otherwise skip over it.

NE-ONE v2023 will seem quite a bit different to you, as it is a big jump from NE-ONE v5, though similar in concept.

To help you, there is a general tutorial video available on the homepage of the system and like NE-ONE v5 there are context sensitive videos and documentation on most of the pages.

You can upgrade from any NE-ONE v5.0.x version using two patches:

- First a pre-patch which resets the php maximum file upload setting to allow the main patch to be uploaded
- Then the main patch file

**Calnex has created a specific guide to the upgrade process** with screenshots to help ensure that it goes smoothly. Please download and have the upgrade guide available while you do the upgrade.

Please note the following, before upgrading:

1. Before upgrading please note the serial number of your system (if hardware) or the current *Host Id* (hardware or virtual - which you can get from Settings [menu] → Licensing)
2. Perform the upgrade from a system local to the NE-ONE, as doing it over a slow internet connection may cause the main patch upload to time out.
3. The upgrade will take quite a lot longer than usual (allow at least 15 minutes after the main patch has uploaded). This is because the underlying operating system and associated packages are also upgraded from Ubuntu 18 LTS to Ubuntu 20 LTS
4. The *Host Id* will change to a *License Id* (aka fingerprint, which is much longer) after this upgrade. From the homepage please click License Now and email your new *License Id* to [support@ne-one.com](mailto:support@ne-one.com) together with the serial number or the old *Host Id* we will update this on your records so you can get an updated licence key
5. After the upgrade your admin password will be reset to the default (admin) which should be changed as soon as possible. Other users passwords will need to be reset using the Management [menu] → Platform Settings → Users feature. Users can then change them to their own preference via the GUI
6. You'll be able to find your saved emulation files using the new File Browser (Management [menu] → File Browser → click Up (to go to /) → double-click Library (to go to /Library) → double-click networks (to go to /Library/networks) and you'll see a folder containing your NE-ONE v5 files. Double-click one of your files to convert it to NE-ONE v2022 format and load it. [If there are any issues with this conversion please email the file to [support@ne-one.com](mailto:support@ne-one.com) for inspection by right clicking on it and choosing download from the right mouse menu]
7. The upgrade does not preserve your port addressing on the emulation ports (0, 1, 2 3...). Please make a note of the addresses and reapply them after the upgrade.

# Information for INE v9 users

If you're currently using INE v9 please read this section, otherwise skip over it.

You can upgrade directly from any INE v9.0.x version to v2022.07.882 using two patches:

- First a pre-patch which resets the php maximum file upload setting to allow the main patch to be uploaded
- Then the main patch file

You can then upgrade to NE-ONE v2023.02 using a standard update kit

NE-ONE v2021-3 are very different to INE v9, while possessing the same capabilities - please read on for a summary of the differences.

NE-ONE Enterprise (v2021-3) highlights:

- A Brand New Web GUI for all Normal and Admin Operations - featuring:
  - Context Sensitive Documentation
  - An On-board Product Tour Video for getting started
  - A full set of On-board Context Sensitive Video Tutorials
  - Wizards to allow rapid creation of Network Designs
  - A flexible Multi Point Network Drawing Designer
  - A simple Point to Point network designer to make the simple - simple
  - A scenario builder to allow automation without scripting
  - Notes - NO Java or Flash are used in this GUI
  - Preferred Web Browsers: Chrome, Edge (but not Edge Legacy) and Firefox
- A Brand New Reporting Tool (in addition to Graphs and Statistics)
- A Brand New RESTful API
- A built in Javascript engine to allow automated changing of the network
- A Console Program for initial IP address setting and occasional low level diagnostics

## Notes

- The INE client GUI (INE-GUI) is fully deprecated
- The CLI and Sockets API interfaces are partially deprecated
- When Upgrading - whatever method is being used to upgrade, it is recommended that a backup of the current system is taken first - using INE-GUI Help → Support → Backup

## IMPORTANT

When planning an INE Enterprise/Ultra to NE-ONE Enterprise v2023 Upgrade the following should be noted:

- You will need to obtain a new style NE-ONE Enterprise Licence key from your support team
- Two upgrade methods will be supported for v2023.2:
  1. For INE v7/v8 or v9 (though for v9 method 2 [below] is preferred). Perform a fresh install of NE-ONE Enterprise from a USB key. INE v9 can be upgraded

this way, but as you can store files on your INE in v9 you should Backup your existing INE - using INE-GUI Help -> Support -> Backup (INE V9.0.x only), then re-image the system, then you can restore your backup later using v2022's Management [menu] → Platform Settings -> Restore feature

2. For INE v9 use its patch (software update) mechanism to apply NE-ONE Enterprise v2022.08 as a pre-patch and then a patch - this method is limited to INE v9.0.x - for earlier versions (V8.x and V7.x) use method 1. Then update to NE-ONE v2023.02 with a further software update

## WARNING

For any and all updates (including upgrades and patches)

Updates can only be applied to a system that has a current Support and Maintenance contract.

Updating a system which has expired maintenance will cause your system to stop working.

## Releases

Latest Release 2023.02.1194 - 28 Feb 2023

### New Features

Reference, if Applicable	Description
NE1-239	<p>Passive Replay of PCAP files (PPR) i.e. replay pcap files based on the original timing (or a multiplier) of the packets in the files. A selection mechanism allows the user to select which IP addresses appear from which nodes in the diagram. For more see the User Documentation.</p> <p>NOTE. The documentation also covers Intelligent Packet Replay (IPR) which in addition to the above is designed to maintain 'causality' (i.e. that a web response, for example, could not occur before the request) in the event of packet loss or packet delay. This IPR feature will be available in a future release</p>
NE1-240	<p>Graphing and getting Statistics from Historical data can now be performed. This is found in the Reports &amp; Graphs menu option by clicking on the new tile Historical Statistics and then navigating to the correct Network folder and then the correct run folder. A display similar to the statistics menu option is shown with a summary of the statistics for the entire run. To graph a particular value use the 'Launch graph' icon which appears when you hover over the relevant statistic value.</p> <p>This feature is supported by a new RESTapi call: <code>/ippeapi/reporting/summary_stats_for_run</code> which can be used directly by RESTapi users</p>

NE1-241	Microsoft Azure Cloud is supported by NE-ONE in this release
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## Improvements

Reference, if Applicable	Description
NE1-242	Several improvements to graphing including not exceeding the widget bounds when resizing the browser window
NE1-243	Allow the same (impairment) function to be used more than once in a link or node
NE1-244	In addition to highlighting the file 'Find in file browser' now also ensures that the file is at the top of the list to make it easy to spot
NE1-245	Statistics page improvement: A new 'column' selection menu lets you hide/unhide columns
NE1-226	You can now hide the subtree of a port in the Port Manager to make the display more manageable by right clicking on the port (avoiding the port name itself) whose sub-tree you wish to hide. The sub-tree is then replaced by a + indicating that there are hidden elements. Right click on the port (not the +, again avoiding the port name) to unhide the tree
NE1-246	The Composite routing function now has a new route field called Spoof Port In which allows it to 'change' the import port associated with the packet. This is created to allow Packet Replay to direct packets through the diagram as though they originated from that port. It can be used for other purposes with care
NE1-247	All routing functions have a new route checkbox 'Only Allow Replay Traffic'. This is used by Packet Replay to only route packets created by the replay feature
NE1-248	A new Copy File Path feature in the File Browser allows the copying of the file's path to the clipboard
NE1-249	To visualise when data is flowing through a link in the Multi-point (mesh) designer the lines are coloured green, if the traffic is only in one direction then the line is coloured orange and dashed
NE1-250	Several improvements to Live packet decode now gives significantly more detail on UDP, TCP, IPv6 and ARP packets
NE1-251	Improved the file browser to refresh automatically on changes
NE1-252	Removed the need for fixed names of the DHCP Relay - DHCP Helper service. Any name can now be used for these services
NE1-253	Added a 'Freeze' on the ID and Name column in the statistics display so that they remain fixed when scrolling horizontally

NE1-254	Restrict the DHCP Help service to only show IPv4 soft ports instead of any leaf ports
NE1-255	Allow IPv4 softports to be used in DHCP Relay services even if they have child ports (usually filter ports)
NE1-256	When Links=0 in the licence key it will now be hidden in My Model (on the homescreen) to avoid confusion, as this means that Links does not apply in this case
NE1-257	LDAP Authentication - a new file /ippe/config/user_list.json can be used to include valid ldap users for the NE-ONE which will then be created on first login according to the json parameters. This makes it easier to create the users initially. Once a user is created this way the user name does not need to be kept in the json file. Passwords in this file should be specified as * - it is ldap that controls the user authentication the password in the json file is there for future use with other authentication methods
NE1-258	On startup of the NE-ONE's emulation engine ports and services are now read from json files called: /ippe/config/default_ports.json and default_services.json respectively. This replaces the legacy method of command lines in the file /ippe/jail/scripts/default_ports.sh which will be deprecated in future. An automatic upgrade feature converts from the legacy method
NE1-259	It is now possible to scroll the Edit Port sidebar in the Port Manager when it is too deep for the current window size
NE1-262	You can now directly run a network from the file browser using: File Browser -> <select MP Network> -> <Right Mouse> -> Play [see also a limitation in known issue NE1-281 below]
NE1-260	There could be too many 'Network Updated by API' messages when a network was frequently updated by the API. A new user preference 'Allow the API to silently overwrite unsaved GUI changes on running networks' can suppress these
NE1-261	If the scenario builder detects incompatible networks it will be more specific in indicating the incompatibility
-	Miscellaneous minor improvements

## Bug Fixes

Reference, if Applicable	Description
NE1-263	A difference in time of day between the NE-ONE and the users web gui could cause graphs and mini-graphs to be plotted based on old data or not appear at all (no data). This is now fixed
NE1-264	Disk Usage pie charts could display the pie segments in the wrong color. This is now fixed

NE1-265	When opening multiple graphs on same node from statistics page, and then clicking close on one incorrectly closes them all. This is now fixed
NE1-266	The DHCP Relay service would not properly pass requests to the ports, preventing DHCP Relay working properly. This is now fixed
NE1-236, NE1-237	Some conversion NE-ONE v5 and INE emulation files were incomplete/incorrect. This is now fixed See also NE1-100 in known issues below
NE1-267	A few crashes when Live packet decode did not properly handle certain packet types are now fixed
Ne1-268	The NE-ONE v5 (impairment) functions Fragment_MTU, Random_Packet_Move_Offset, Random_Packet_Time_Reorder and Packet_Reorder_1_in_x were incorrectly omitted in NE-ONE v2022 Professional Edition. This is now fixed
NE1-269	Radius authentication did not correctly handle alt_server (alternate server) and the use_tls fields. The latter leading to a crash. These are now fixed
NE1-210	The SSL certificate details in Management→ Platform Setings → Certificate incorrectly always showed the information for an iTrinegy certificate, not the currently uploaded one. This is now fixed
NE1-270	Packet Capture could incorrectly make huge (corrupt) files under certain circumstances. This is now fixed
NE1-271	Reports could not be downloaded to docx files. This is now fixed
NE1-272	The (scenario) outage transition did not work correctly for the impairment random_drop. This is now fixed
NE1-273	Decreasing loss and bandwidth in transitions were not working correctly. This is now fixed.
NE1-274	Issues with the KNI layer would stop the management console appearing for External Networks. This is now fixed
NE1-275	The default transmission service would not restart when a network was stopped when a non admin user was running the network. This is now fixed
NE1-276	A crash could happen if the routing object id was changed in a link using a routing function. This is now protected against.
-	Miscellaneous minor fixes

## Known Issues

Reference, if Applicable	Description
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NE1-281	Launching an 'old' point-to-point network using the new Play feature from the File Browser (see NE1-262 above) may generate a 'network Error - Object right: Cannot Open a connection to Input port (1) - likely it's already in use'. This is because these older emulations were not 'relocatable', except by the Point-to-Point designer. To solve the issue load the network into the point-to-point designer and (re)save it - this updates it to be relocatable - then Play from the file browser will work.
NE1-277	There are some artifacting issues in the port manager (though a number have also been fixed). A browser refresh to redraw the screen will normally remove them
NE1-278	On Azure and AWS the platforms logging on at the console goes directly to the command prompt - this is due to the platform constructing the default username in these cases
NE1-279	On Azure and AWS the platforms directly take control of the console usernames and Management Port addressing. At this time therefore the console menu does not appear on console login and GUI setting of the management port addresses is not functioning
NE1-222	On Desktop systems Generation 4 - the LCD would start even without the system being powered on leading to the false impression that the system was not starting. Please short press the power button if it does not appear to be coming on
NE1-100	Due to the large variety of network (emulation) designs customers have reported that certain legacy Emulation files from both INE v8/V9 and NE-ONE v5.0 have not automatically converted to NE-ONE v2022 format - if this happens please email them to support so that we improve the converter. (Many improvements were already made in this version). Where appropriate we will send back a correctly converted file
NE1-99	The context sensitive entry into the User manual from particular screens relies on PDF destination markers, however not all browsers support this feature. Chrome, Edge (Recent, non legacy) & Firefox support this feature. Safari does not support this feature
NE1-98	There is an issue with removing a function in advanced settings mode and then clicking the Update All button. The function is not removed and its impairments persist. A workaround for this is to set the function's impairment parameters so that it will not impair

## Previous Release 2022.08.936 - 1 Aug 2022

### New Features

Reference, if Applicable	Description
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NE1-225	The console login user has changed from itrinegy to neone with default password neone. The username itrinegy remains operational but is deprecated - in a future version it will be removed. The change password feature in the console program changes the password for both the neone and itrinegy users to the same value. The console login screen has been changed to just have the banner NE-ONE (plus the IP address, as before)
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## Improvements

Reference, if Applicable	Description
-	Miscellaneous minor improvements

## Bug Fixes

Reference, if Applicable	Description
NE1-224	Where the link name(s) were different in two or more work in progress scenarios (i.e. loaded in the scenario builder), the scenario changeover to the second network element could fail with a invalid link message. This is now fixed
NE1-223	Basic link settings dropdowns not repopulating from loaded active network, or load from file system network. This is now fixed
-	Miscellaneous minor fixes

## Known Issues

Reference, if Applicable	Description
NE1-222	On Desktop systems Generation 4 - the LCD would start even without the system being powered on leading to the false impression that the system was not starting. Please short press the power button if it does not appear to be coming on
NE1-100	Due to the large variety of network (emulation) designs customers have reported that certain legacy Emulation files from both INE v8/V9 and NE-ONE v5.0 have not automatically converted to NE-ONE v2022 format - if this happens please email them to support so that we improve the converter. (Many improvements were already made in this version). Where appropriate we will send back a correctly converted file
NE1-99	The context sensitive entry into the User manual from particular

	screens relies on PDF destination markers, however not all browsers support this feature. Chrome, Edge (Recent, non legacy) & Firefox support this feature. Safari does not support this feature
NE1-98	There is an issue with removing a function in advanced settings mode and then clicking the Update All button. The function is not removed and its impairments persist. A workaround for this is to set the function's impairment parameters so that it will not impair

## Previous Release 2022.07.882 - 28 June 2022

### New Features

Reference, if Applicable	Description
NE1-219	New facility to be able to Live Packet Monitor through objects/links in the Web GUI - like an internal tcpdump. NOTE this is for ease of tracing network paths and should not be left on at higher packet rates due to performance overhead. See new option in Designers (Link & Node) and also the Statistics page
NE1-220	In Expressions a new @packet.loc[<offset>] is now available to test the value of a byte at a specific packet offset. See documentation for details

### Improvements

Reference, if Applicable	Description
NE1-184	Add graphs page (links, comparison) now shows direction of link (from node)
NE1-212	Mean average line now shown on basic graphs
NE1-216	Added ability to update running network json via RESTapi by putting in filename. This is in addition to being able to update in a direct post
NE1-218	Branding - Certificate Organisation changed to Calnex
-	Several Minor improvements

### Bug Fixes

Reference, if Applicable	Description
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NE1-170	When launching a graph from a link in a dual hop network, incorrect elements were graphed. This is fixed
NE1-181	In a pair of emulations, one on ports 0-1 and one on ports 2-3 with same node names leads to graphing ambiguity. This is now fixed
NE1-182	Changing node names were not re-evaluated by the graph tool, leading to them not being available for graphing. This is now fixed
NE1-183	When going to the new graphs page it did not reevaluate ports and links available from the currently running emulations. This is now fixed
NE1-185	When changing link names that have already been graphed the name doesn't update on the graph. This is now fixed
NE1-211	Licensed topologies not showing properly in my model. This is now fixed
NE1-193	First field in link basic settings not updating properly in RESTapi. This is now fixed
NE1-201	Comparison graph in multi point designer does not distinguish between the directions. This is now fixed.
NE1-214	GUI could get unwanted "changed by API" when you press Update All in main MP designer screen. This is now fixed
NE1-215	Occasionally GUI could hang with RESTapi calls not being serviced. Added timeouts to SSL sockets to prevent this
NE1-217	Supplying an invalid link index e.g. in a RESTapi call could cause the engine to crash. This is now prevented
NE1-221	For the Desktop systems with LCD, the LCD would not always initialise properly, especially on cold start (power applied). This is now fixed
-	Many minor fixes to graphs
-	Miscellaneous minor fixes

## Previous Release 2022.05.825 - 20 May 2022

### New Features

Reference, if Applicable	Description
NE1-154	This is the first Calnex Solutions branded version of NE-ONE
NE1-155	NE-ONE is now available as an AMI for AWS directly from the AWS Marketplace (search for NE-ONE)

NE1-155	You can now directly upgrade from INE v9 to NE-ONE v2022 via the INE's patch feature. This upgrades the software and the operating system and packages. INE v9 now uses the same patch files as NE-ONE v5.
NE1-156	NE-ONE now supports running on Microsoft Azure. Please contact support for the machine (VM) image

## Improvements

Reference, if Applicable	Description
NE1-158	New padlocks in Mesh Designer and Port Manager prevent accidental change of the diagram. Click to Lock/Unlock
NE1-159	Notification of GUI users by events generated by changes to running networks by other GUIs or RESTful API is improved
NE1-160	Start and stop operations can sometimes take a little time - there are now waiting messages to show that the process is happening - these are removed when the operation is complete
NE1-161	It is now possible to suppress minigraphs (graphs that automatically are shown in the PTP single and PTP dual designers
NE1-152	Large improvements made to network update speed, by multithreading and using differencing for both Point-to-Point and Multi-Point designs
NE1-162	Miscellaneous improvements to Software Update process in the GUI
NE1-163	Miscellaneous improvements to graphing
NE1-164	The GUI now ignores out of date session expiry events. Preventing old session expiry popups that are delivered after newly logging in
NE1-165	Hover over in Port Manager now suppressed when the mouse is moving
NE1-166	A few new waiting "spinners" were introduced where wait time on an operation is noticeable
NE1-167	If a network is opened multiple times it gets an increasing suffix e.g. _1 _2 to show the different instances. Returning to an active network opens the appropriate one
NE1-168	The software upgrade button is now greyed out if maintenance (which includes software updates) has expired, this prevents rejection of the update in the update process itself
NE1-169	Many miscellaneous improvements to the Port Manager
-	Several Minor improvements

## Bug Fixes

Reference, if Applicable	Description
NE1-126	Newly created scenarios did not work with "find file in file browser". This is now fixed
NE1-171	Miscellaneous fixes to the INE file converter
NE1-172	The GUI could receive multiple notifications of a change of the status of a network. This is now fixed.
NE1-173	Packets from the KNI (used for dynamic routing services) could be incorrectly labelled. This is now fixed
NE1-174	Changing the link qualifications in the RESTful API or another GUI would not be sent to the GUI of another user running that network. This is now fixed
NE1-175	Sometimes you would receive multiple notifications when returning from Advanced Link settings to Basic Link settings. This is now fixed
NE1-176	Port 0 could not be moved (dragged) in the port manager. This is now fixed
NE1-177	Clicking on the "Play" button in a port pair in the menu bar could cause the GUI to fail. This is now fixed
NE1-178	In the RESTful API an additional space could be introduced in a post depending on the encoding, this could cause the API call to fail. This is now fixed
NE1-179	The GUI could fail on playing a newly created scenario (not saved and reloaded) under certain conditions. This is now fixed
NE1-180	Several fixes in packet handling and packet disposal to improve product resilience in very unusual packet flows
-	Miscellaneous minor fixes

## Known Issues

Reference, if Applicable	Description
NE1-222	On Desktop systems Generation 4 - the LCD would start even without the system being powered on leading to the false impression that the system was not starting. Please short press the power button if it does not appear to be coming on

NE1-100	Due to the large variety of network (emulation) designs customers have reported that certain legacy Emulation files from both INE v8/V9 and NE-ONE v5.0 have not automatically converted to NE-ONE v2022 format - if this happens please email them to support so that we improve the converter. (Many improvements were already made in this version). Where appropriate we will send back a correctly converted file
NE1-99	The context sensitive entry into the User manual from particular screens relies on PDF destination markers, however not all browsers support this feature. Chrome, Edge (Recent, non legacy), Firefox support this feature. Safari does not support this feature
NE1-98	There is an issue with removing a function in advanced settings mode and then clicking the Update All button. The function is not removed and its impairments persist. A workaround for this is to set the function's impairment parameters so that it will not impair

## Previous Release 2022.04.732 - 28th March 2022

### New Features

Reference, if Applicable	Description
NE1-128	individual javascript updates through the RESTapi are now applied to the json view of the network, so that a reload into the GUI will have the complete up to date settings
NE1-130	Automatically update the running network in the GUI when updated incrementally through the RESTapi with javascript - this is related to NE1-128
NE1-144	AWS Certified. This version has passed AWS certification

### Improvements

Reference, if Applicable	Description
NE1-127	Improved conversion of INE and NE-ONE v5 files to NE-ONE v2022
NE1-137	Several improvements were made to the GUI's handling of events to ensure that all events will pop up when they should
NE1-138	Some https agents did not correctly fill in the host field in the header leading to an exception which could delay RESTapi call handling while recovering from the exception. This is now handled.

NE1-139	In VM installations it is possible to set up large numbers of processor sockets e.g. 8. Only 4 are supported. you are now informed of too many sockets rather than experiencing issues later.
NE1-140	If the NE-ONE was restarted then on re-login the GUI could incorrectly show the "old" status of networks in the toolbar. It now checks to see what is actually running and adjusts the status accordingly
NE1-141	If you have not installed a certificate, then in the web browser you have to accept the generic certificate as OK to use. However this permission is not permanent in the browser. When it expires there is some mystery as to the reason your login credentials no longer work. We now detect this and aim to inform you.
NE1-142	For RESTapi users json part of a network is now updated when a javascript update is sent, allowing visualisation of changes from the RESTapi using the GUI
NE1-145	A confirm password box has been added to the change password screens to prevent typing errors
NE1-145	Vertical animation of graph lines has been removed to make graphs easier to read when they are being updated
NE1-147	The user's preference for file browser mode - Tile or List is now remembered across sessions
NE1-149	It is now possible to use Find in File browser from the Point to Point Designer and Multi Point Designer in List mode (only tile mode was previously supported)
-	Several Minor improvements

## Bug Fixes

Reference, if Applicable	Description
NE1-129	Turning packet capture on and off (which used events) would interfere with the delivery of network start stop events etc. This is now fixed
NE1-131	Y-Axis Labels on graphs could exceed the available width when values were large. They are now scaled by dividing by 1000, 1000000 etc (as appropriate) and labelled respectively K, M, G etc.
NE1-132	The GUI did not properly set up the nested properties in the Generic and Composite Filter causing these not to work. This is now fixed
NE1-133	There was a memory leak in packet processing. This is now fixed
NE1-134	Javascript garbage collection was not functioning correctly, leading to out of memory conditions if a lot of javascript updates were made, such

	as in a scenario with a tight loop or looping Javascript RESTapi calls. This is now fixed
NE1-135	An ipperte engine crash referencing ippe_virtual_out_process_packet_with_classes_and_bandwidth has been protected against
NE1-136	There was a problem with capturing packets on soft ports. This is now fixed
NE1-143	Clicking on an active emulation when it is already in the toolbar would cause a duplicate to appear in the toolbar. This is now fixed
NE1-148	When using Save As on a scenario the "internal name" would not be changed from the original scenario. This is now fixed
NE1-150	There was an issue with packets not being initialised correctly when received via KNI, and also of packets not being released when only receiving on KNI. These are both now fixed
-	Miscellaneous minor fixes

## Known Issues

Reference, if Applicable	Description
NE1-100	Due to the large variety of network (emulation) designs customers have reported that certain legacy Emulation files from both INE v8/V9 and NE-ONE v5.0 have not automatically converted to NE-ONE v2022 format - if this happens please email them to support so that we improve the converter. Where appropriate we will send back a correctly converted file
NE1-99	The context sensitive entry into the User manual from particular screens relies on PDF destination markers, however not all browsers support this feature. Chrome, Edge (Recent, non legacy), Firefox support this feature. Safari does not support this feature
NE1-98	There is an issue with removing a function in advanced settings mode and then clicking the Update All button. The function is not removed and its impairments persist. A workaround for this is to set the functions impairment parameters so that it will not impair
NE1-126	For a newly created scenario file, if you click on "find in file browser" it does not highlight the file. If you reload the file later then this is not an issue
NE1-152	Sometimes in the Multi-Point designer update is slow from pressing the button to receiving the popup
NE1-153	Packet drops does not count up in Internal Drops in graphs and statistics

## Current Release 2022.01.699 - 7th March 2022

This version has a designation of Limited Availability (LA)

### New Features

Reference, if Applicable	Description
NE1-121	In order to be able to see the network diagram in the Multi Point Designer while configuring routing a new PEEK button has been created. Hovering over this button shows the diagram below

### Improvements

Reference, if Applicable	Description
NE1-120	Minor updates to LCD software (Desktop Hardware) messaging when IP address cannot be determined
NE1-101	Several Improvements to External Routing, BGP, OSPF, RIP, etc. RIPv6 has been renamed to the technically more precise RIPng in menus etc
NE1-105	fixed_delay_with_jitter function now appears in both Default and Labs libraries for compatibility with both NE-ONE v4/v5 and INE v9
NE1-109	Added Desktop System Motherboard GA-H17TN-00
NE1-110	An SSL problem introduced in some recent browsers could cause the built in Webserver to crash with an SSL length error. It now restarts itself automatically in this case
NE1-112	In basic link settings it is now possible to select the dropdowns for Subtype and Link Quality out of order to change just these values without altering the Type. Previously they were greyed out.
NE1-113	Software Update improvements: <ol style="list-style-type: none"><li>1. On uploading a software update the spinning wheel has been replaced by a percentage progress bar.</li><li>2. The GUI holds on a waiting page while checking that the new version has started.</li><li>3. after the update the running GUI checks if it needs to upgrade itself and if so forces an update (rather than using the current cached copy)</li></ol> Note, these changes will be seen for the next update, not this update.
NE1-117	opening a network from the recent file list (e.g. on another port pair) twice now behaves in the same way as opening from the file browser and _n

	(e.g. _1, _2) is added to the subsequent instances.
NE1-119	After using "Upload from PC" the uploaded file now appears immediately in the recent files list
NE1-122	Miscellaneous Performance improvements
NE1-123	Updated Operator manual
-	Other minor miscellaneous improvements

## Bug Fixes

Reference, if Applicable	Description
NE1-102	Change to upgrade procedure to ensure that when operating system components or packages are installed they will not look to the Internet for repositories
NE1-106	When Link Speed bit speed units were changed from bps to Mbps, Gbps etc the multiplication factor would also be applied to the congestion %. This is now fixed
NE1-107	On the statistics page the lights for packet capture and reporting capture could flash incorrectly in the wrong colour. This is now fixed
NE1-108	On session expiry the GUI could produce multiple session expired popups. This is now fixed
NE1-111	If packet capture was turned on at high packet rates it would lead to memory exhaustion, causing the product to stop functioning, including processing RESTapi calls. This would make it look like the GUI was not functioning. This is now fixed
NE1-114	There was an issue with updating, disabling and then enabling ip addressing on port pairs. This is now fixed
NE1-116	Attempting to (sideways) upgrade from a version to exactly the same version (i.e. all 3 parts of the version match) could cause an issue. This is now prevented.
NE1-118	In scenario builder shrinking segments down to 1 second could not be resized up again. This is now fixed
NE1-124	If a scenario was slow to start then a message could appear that the scenario had not started successfully, even though it was running. This was due to a timing issue. This is now fixed.
NE1-125	If a link is deleted from within the link parameters, the GUI would crash with a "squiggly man" graphic. This is now fixed
-	Other minor miscellaneous bug fixes

## Known Issues

Reference, if Applicable	Description
NE1-100	Due to the large variety of network (emulation) designs customers have reported that certain legacy Emulation files from both INE v8/V9 and NE-ONE v5.0 have not automatically converted to NE-ONE v2022 format - if this happens please email them to support so that we improve the converter. Where appropriate we will send back a correctly converted file.
NE1-99	The context sensitive entry into the User manual from particular screens relies on PDF destination markers, however not all browsers support this feature. Chrome, Edge (Recent, non legacy), Firefox support this feature. Safari does not support this feature
NE1-98	There is an issue with removing a function in advanced settings mode and then clicking the Update All button. The function is not removed and its impairments persist. A workaround for this is to set the functions impairment parameters so that it will not impair
NE1-126	For a newly created scenario file, if you click on "find in file browser" it does not highlight the file. If you reload the file later then this is not an issue.

## Previous Release 2022.01.656 - 18th February 2022

This version has a designation of Release Candidate

## New Features

Reference, if Applicable	Description
-	None

## Improvements

Reference, if Applicable	Description
-	Improved console boot screen
-	Port Pairs are now always shown in alphabetical order

-	Licence policing changed to allow addition/removal of Processors (CPUs) and addition/removal of NICs (vNICs/Networks) in VM versions without requiring a licence update
-	other minor miscellaneous improvements

## Bug Fixes

Reference, if Applicable	Description
NE1-104	Sidebar (object properties) are now closed when changing between editing networks, as otherwise an attempt to change the (out of scope) sidebar properties would causes a GUI failure
-	On a cold start (power cord removed/attached) the Desktop G4 hardware could arbitrarily switch network management port device name. Our startup software now looks for this change and updates the operating system files to allow continued access by the IP address
-	other minor miscellaneous bugfixes

## Known Issues

Reference, if Applicable	Description
-	Per version 2022.01.632

## Previous Release 2022.01.632 - 9th February 2022

## New Features

Reference, if Applicable	Description
-	Added Support for Desktop System Motherboard GA-H170TN-00

## Improvements

Reference, if Applicable	Description
-	Desktop LCD - Improved handling if IP details cannot be obtained

NE1-103	Maximum MTU is now increased from 9018 to the largest a card can handle. Exact details may vary with NIC card firmware - check /Support/system.log (aka ippe.log) for exact values
-	improved choice of portpair colours for professional (point-to-point) versions
-	ISO Installer improved to support UEFI for Generation 4 Desktop hardware
-	other minor miscellaneous improvements

## Bug Fixes

Reference, if Applicable	Description
-	minor miscellaneous bug fixes

## Known Issues

Reference, if Applicable	Description
NE1-102	It has been reported (and verified by us) that some operating system packages provided in the v5.0 v2022 upgrade process attempt to access repositories via the Internet to resolve missing dependencies. We are investigating whether this affects other software updates e.g. v2021.x to v2022.n. We are investigating with the aim to remove all external dependencies.
NE1-101	There is an issue with configuring the new external routing feature i.e. (external BGP, OSPF and RIP) - we are researching this.
NE1-100	Certain legacy Emulation files from both INE V8/V8 and NE-ONE V5.0 have not automatically converted to NE-ONE v2022 format - if this happens please email them to support so that we can investigate
NE1-99	The context sensitive entry into the User manual from particular screens relies on PDF destination markers, however not all browsers support this feature. Chrome, Edge (Recent, non legacy), Firefox support this feature. Safari does not support this feature
NE1-98	There is an issue with removing a function in advanced settings mode and then clicking the Update All button. The function is not removed and its impairments persist. A workaround for this is to set the functions impairment parameters so that it will not impair

## Previous Release 2022.01.622 - 4th February 2022

### New Features

Reference, if Applicable	Description
NE1-82	On first login it will be a requirement to change the admin user's password from admin
NE1-83	A new force password change on next login feature in the User manager has been created for user admin

### Improvements

Reference, if Applicable	Description
-	Disk space check performed at an earlier point in Software Update with message indicating that update cannot be performed if too little space available
-	The OVA disk size for VMware has been increased to 100GB to ensure sufficient space available for report data storage etc
NE1-95	LCD now flashed with initial System Starting message for Desktop NE-ONEs
NE1-97	Improperly started networks will now show up in the active networks list allowing them to be closed and so free their resources

### Bug Fixes

Reference, if Applicable	Description
NE1-86	If a link name was changed and then Advanced features were immediately selected without OK, the GUI would fail and need refreshing - this is now fixed
NE1-87	Occasionally the city to city latency function would show in link advanced settings but this is reserved for the built-in location function - this is now suppressed
NE1-88	A few Issues with the traffic generation soft port have been fixed
NE1-89	An issue with changing the node icon in the point to point designer would cause the GUI to fail - this has now been fixed
NE1-90	a link with advanced settings would not go directly into advanced mode

	without the user clicking advanced settings - this is now fixed
NE1-91	A few issues caused by language support have been fixed
NE1-92	The LCD could hang if the IP address of the management port could not be determined. This is now fixed
NE1-93	A non privileged user could not start an emulation on ports assigned specifically to them in the port manager - this is now fixed
NE1-94	Enabling, then disabling, then re-enabling Default Transmission for a Port Pair would not work. This is now fixed

## Known Issues

Reference, if Applicable	Description
-	It is possible that certain legacy Emulation files from both INE V8/V8 and NE-ONE V5.0 will not automatically convert to NE-ONE v2022 format - if this happens please email them to support so that we can investigate
-	The context sensitive entry into the User manual from particular screens relies on PDF destination markers, however not all browsers support this feature. Chrome, Edge (Recent, non legacy), Firefox support this feature. Safari does not support this feature
NE1-98	There is an issue with removing a function in advanced settings mode and then clicking the Update All button. The function is not removed and its impairments persist. A workaround for this is to set the functions impairment parameters so that it will not impair

## Previous Release 2022.01.596 - 21st January 2022

## New Features

Reference, if Applicable	Description
	None

## Improvements

Reference, if Applicable	Description
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	None
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## Bug Fixes

Reference, if Applicable	Description
NE1-77	When clicking application reports it would say that the feature was unlicensed, even when this property was in the licence. This is now fixed.
NE1-80	There was an issue in the Port Pair ports settings dialog box where the time spinner would keep spinning after an upgrade. This is now fixed
NE1-78	There was an issue upgrading port settings from NE-ONE v5 to NE-ONE v2022 which meant that Port Pairs were not properly built. These are now no longer brought forward in the upgrade - this is documented in the upgrade guide.
NE1-79	There was an issue with pinging local ports from a non-local subnet. This is now fixed.
NE1-80	There was an issue where having no advanced functions in a licence file would invalidate the licence file. This is now fixed.

## Known Issues

Reference, if Applicable	Description
	As per 2022.01.587

## Previous Release 2022.01.587 - 17th January 2022

## New Features

Reference, if Applicable	Description
	Support for NE-ONE (Professional) v5 upgrades - see separate upgrade guide
	Stop networks without opening them by right clicking on their name in the active emulations tab on the home page dashboard
	Added ability to save, load and clear (erase all soft ports) port configurations in Port Manager function

	New Multi widget/multi tab graphs with basic and comparison graph types and layout choices. You can now have multiple graphs open on one page. Each graph page can have multiple tabs, each with a different set of widgets. Each widget can be of type basic graph or comparison graph
	Language support added. <i>First languages - French and German are in Beta:</i> most menu items are translated but Event messages and advanced function values are not yet translated. We welcome your feedback
	New External routing support added for BGP, OSPF, OSPF-v6, RIP, RIP-v6 - see Management → Platform Settings → External Routing and the context sensitive documentation from that page for details. Setup uses the web console on that page
	Port Pairs are automatically created where soft ports do not exist. They are not automatically favorited for users though

## Improvements

Reference, if Applicable	Description
	Improved error popups if network won't start
	Many miscellaneous improvements to packet processing
	Many miscellaneous improvements to logging in /ippe/logs/ippe.log (internal File Browser name /Support/system.log) including removing spurious messages, and downgrading error messages that were in fact just information
	For NE-ONE Desktop systems with an LCD Panel, the LCD software has been updated. Operation is similar in general terms but there are many detailed improvements including context sensitive help on F5
	Edit User screen layout improved
	Unlicensed features will be shown "greyed out" by default, but can be completely hidden. It is possible to later unhide them via Management → Preferences
	More details about the current licence displayed on the Home page Model Information section
	Clicking "More..." on the Model Information area on the homepage goes directly to the License Manager to display all the licence features
	Several Improvements to the user documentation in addition to those required to describe the new features for NE-ONE v2022
	Several miscellaneous improvements to the GUI look and feel, including icons

	A new /Public/networks folder has been created for users to openly share network files with other users. Initially there are no networks present in it
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## Bug Fixes

Reference, if Applicable	Description
	Depending on timing ipperte (the emulation engine) could fail on Soft Port Deletion - This is now fixed
	Depending on timing ipperte (the emulation engine) could fail on Network (Emulation) Stop - This is now fixed
	In point to point networks the choice of Mbps as a unit for the right hand node was not saved in the save file - This is now fixed

## Known Issues

Reference, if Applicable	Description
	It is possible that certain legacy Emulation files from both INE V8/V8 and NE-ONE V5.0 do not automatically convert to NE-ONE v2022 format - if this happens please email them to support so that we can investigate
	The context sensitive entry into the User manual from particular screens relies on PDF destination markers, however not all browsers support this feature. Chrome, Edge (Recent, non legacy), Firefox support this feature. Safari does not support this feature
	Users are unable to re-enable "Default Transmission" after disabling it - fixed by a reboot.

## Previous Release 2021.02.437 - 14th September 2021

## New Features

Reference, if Applicable	Description
	None in this release

## Improvements

Reference, if Applicable	Description
NE1-71	For multipoint networks files can now be imported only if all of the node and link names match. If they do not match an error is displayed
NE1-72	Unsaved changes on networks and scenarios is now preserved on session timeout
NE1-73	Point to Point and Dual Hop now have the names normalised
	Other miscellaneous minor improvements

## Bug Fixes

Reference, if Applicable	Description
NE1-74	Could not add new nodes after node 10 in multipoint designer unless you rename the nodes as you go - this is fixed
NE1-75	On stopping a scenario - it would show outdated error popups - thi is now fixed
NE1-76	Several issues with creating, running and stopping automatic scenarios have been fixed
	Additional Minor Fixes

## Known Issues

Reference, if Applicable	Description
	None in this release

Previous Release 2021.02.398 - 14th September 2021

## New Features

Reference, if Applicable	Description
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NE1-48	New Management feature: Diagnostics - gathers diagnostics information for support purposes
NE1-47	Radius Authentication support - initial version
NE1-46	OVA now VMware certified
NE1-41	Added AWS support - including drivers

## Improvements

Reference, if Applicable	Description
NE1-65	ipmicfg added to product for configuring /checking ipmi (BMC) IP address etc
NE1-63	User manager now has a check all to select all ports and port groups
NE1-59	New tutorial videos added with choices of which video to view where more than 1 choice is valid
NE1-58	Software Update files are now .itu files, not tar files
NE1-57	Virtual platforms will set IP address to DHCP if an invalid netplan file is detected
NE1-56	Greatly enhanced applications and application performance reports with improved expert rule base for determining latency and bandwidth sensitivity, now also collapsing requests into transactions for ease of use
NE1-55	Several improvements to entering an emulation that is part of a scenario, including ensuring that on exit you are returned to the parent scenario
NE1-54	Alerts (Events) add links to filenames where appropriate
NE1-50	Host id removed from console menu as it is no longer the licence i
NE1-49	Advanced menu improved to include additional diagnostics and repair items
NE1-45	Date time in all log files is now in UTC - this was previously only true for ippe.log (system.log)
NE1-44	Core files in /ippe/logs are now compressed on restart
NE1-38	Added drivers to support updated kernels

NE1-39	Improved recognition of file types in file browser
NE1-40	Improved running of scenarios including keeping the link names of the first element
NE1-42	improved port manager - allowing ports to be repositioned

## Bug Fixes

Reference, if Applicable	Description
NE1-35	* When there are 3 DNSservers in a DHCP environment the console menu option 0 gives an error - this is fixed
NE1-64	* The file browser would display times of files incorrectly due to a date/time formatting issue - this is fixed
NE1-62	* Out of order functions were dropping the re-ordered packets, due to a failure to re-insert them into the packet flow - this is fixed
NE1-61	* The reboot and shutdown functions in the Management --> Platform Settings -> Control did not work - they were acting on the container not the operating system - this is fixed
NE1-60	* On changing your password it was temporarily shown in a confirmation popup. - This has been removed
NE1-53	* Link sub-array editor did not save changes - this affected any arrayed (table) link property - This is fixed
NE1-51	* After visiting the statistics screen these statistics would continue to be gathered after navigating away - this is fixed
NE1-31	* Disabling ntp stops snmpd service not ntpd - this is fixed
NE1-25	* Scenario Builder issues where user is not notified when the scenario did not start or is not running - this is fixed

NE1-34	* Error changing itrinegy password in console menu - Error message "Unable to Change your password please contact your support representative" - this is fixed
NE1-33	* You cannot start an emulation as a non-admin user - this is fixed
NE1-36	* INE V9 Upgrade procedure did not remap soft port names from old libraries to new libraries - this is fixed
	* There was an issue opening existing scenarios in the scenario builder. They would open from the recent files list or the file browser - this is fixed NE1-37
	* In multipoint designer and statistics you only get one direction when graphing a link and the link direction is called "right" when no concept of right or left exists - this is fixed - NE1-67

## Known Issues

Reference, if Applicable	Description
NE1-69	When Launching graphs from Graphs you do not get the choice of nodes
NE1-70	In statistics you only get one direction when graphing a link
NE1-26	Issue with timezones of dates in embedded filenames

## Previous Release 2021.02.275 - 18th June 2021

Release Candidate 2.1

## New Features

Reference, if Applicable	Description
	Added table function "Staged Tables" to advanced latency choices - the table can be populated via

	a JavaScript table or JavaScript function simulating a table. This is primarily for REST API callback use in simulating user defined latency and loss patterns
	New in place INE V9 to NE-ONE V2021 update kit available - no need to re-image the disk
	upgrade preserves username and passwords from INE V9
	INE V9 files are automatically preserved and copied to /Private/INEv9, similarly for /Public
	upgrade kit preserves the complete version history from INE V9 to NE-ONE V2021
	There is no need for backup and restore of INE V9 files (though backup is recommended)

## Improvements

Reference, if Applicable	Description
	After the upgrade from V9 the Web UI now automatically goes to the login page
	Event requests which could be numerous in the system.log (ippe.log) are now suppressed
	Splash screen now also provided on boot of rack mount systems
	Software update now moves hot fix patches to a temporary area to avoid any potential conflict
	Apache and snmpd from the operating system could interfere with our web server and snmpd server - - these have been prevented from running
	In advanced mode new functions (Edit) and existing functions display hover over help
	log and error messages in system.log (ippe.log) are improved

## Enhancements

Reference, if Applicable	Description
	New in place INE V9 to NE-ONE V2021 update kit available - no need

	to re-image the disk
	upgrade preserves username and passwords from INE V9
	INE V9 files are automatically preserved and copied to /Private/INEv9, similarly for /Public
	upgrade kit preserves the complete version history from INE V9 to NE-ONE V2021
	There is no need for backup and restore of INE V9 files (though backup is recommended)
	NE-ONE V5.0 Scenario conversion is now supported
	INE Emulation file conversion is complete and covers most cases - please submit any that won't convert to support@itrinegy.com

## Bugfixes

from previous Release Candidate & Beta Test Versions

Reference, if Applicable	Description
	An issue with 1GB (Intel i350) card could cause a crash- this has been fixed
	An issue with de-tagging a vlan tagged packet could corrupt the output packet - this is now fixed
	A problem with packet capture not always working has been fixed
	An issue could preventing some dual-hop (point-to-point) networks working - this is now fixed
	An issue preventing city-to-city latencies working has now been fixed
	A number of issues affecting the scenario (timeline) builder are now fixed
	Renaming Nodes/Links in Multi-point editor would restore old node name is field was made empty - this is now fixed
	Links were not shown in the (scalar) Port Out routing field, only ports were shown - this is now fixed
	Link fields which could be True or False were not displaying with check boxes (tick boxes) - this is now fixed

	Going to the port manager & manipulating a soft port, from the Multi-point editor, and then back to the multi-point editor would cause the GUI to crash (squiggly person symbol) - this is now fixed
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## Known Issues

Reference, if Applicable	Description
	The Performance Report is still undergoing improvements to its formatting and content
	Not all INE V8/V9 files will convert automatically to V2021 - - please submit any that won't convert to support@itrinegy.com
	When using networks in scenarios their links are changed to generic names to ensure compatibility between segments. We are working to improve the names for reporting, statistics etc
	Management -> Platform Settings -> Control -> Shutdown and Reboot only shut down the product container, not the system (VM or Hardware). To shutdown/reboot the entire system use the console menu instead: ssh itrinegy@<NE-ONE IP Address> - enter password, then choose option S from the menu