


CUSTOMER RELEASE NOTES



Alcatel-Lucent 7342 ISAM FTTU

ONT | R04.06.40

3FE 52124 BBAA DEZZA Edition 01

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1 Introduction

1.1 About this document

This document provides an overview of the contents of the 7342 Intelligent Services Access Manager Fiber to the User (7342 ISAM FTTU) ONT software loads, ONT R04.06.40, including known restrictions.

This Customer Release Notes (CRN) document is prepared for system administrators, installers, and other operators of the 7342 ISAM FTTU.

R04.06.40 refers to the ONT R04.06.40 load as released by the engineering team on February 9, 2010.

1.2 How to read this document

Some ONTs included in this CRN are not of interest to all customers. Alcatel-Lucent recommends that each customer reads through the section that addresses the ONTs of interest.

Section 3.2 outlines the ONT part numbers and the ONTs' regional applicability (ETSI, ANSI, or both (ETSI and ANSI)). Common functional behaviors that apply to all the ONT types are documented in section 2.

ONTs not listed in section 3.2 cannot be upgraded or used in this release. This document should be read together with the accompanying customer documentation.

1.3 Release ONT R04.06.40

This section lists the features applicable to the ONTs supported in this release.

Purpose for R04.06.40 release

This ONT R04.06.40 release introduces the following new ONTs:

- > I-010G-P, I-020G-P, and I-040G-P data-only ONTs

Customer trouble reports (CTR) and Alcatel-Lucent self-processed defects (DDTS) that are resolved in this release are documented in Table 7.

ONTs supported in this release

See Table 2 for a list of supported ONTs.

1.4 Key features

Performance monitoring:

- > PON and Ethernet

Debugging:

- > Threshold crossing alarms

PON:

- > FSAN standards compliant GEM mode transport support
- > DBA support (Idle GEM DBA)
- > T-CONT type 1, type 2, type 3, type 4, and type 5 support
- > AES downstream support
- > FEC upstream and downstream support
- > 1490 received power measurement on ONTs
- > Standard single multicast GEM port-id support

IP video service:

- > In Band IP Video support
- > IGMP snoop support

QoS support:

- > Fine-grain packet-based QoS mechanisms
- > 802.1p QoS and packet classification
- > Up to 8 QoS level (priority queues) per Ethernet interface
- > VLAN translation support

General:

- > Autonomous Dying Gasp alarm to indicate a loss of power to the ONT

1.5 Documentation references

Finding documentation on OLCS

The OnLine Customer Support (OLCS) site gives you access to the latest Alcatel-Lucent customer documentation. To download documentation:

1. Go to www.alcatel-lucent.com and click on MyAccess.
2. Log in to the Alcatel-Lucent Customer and Business Partner Portals with the username and password for your OLCS account. A customized Customer Center page opens. If you do not have an account, contact your Alcatel-Lucent representative.
3. From the Technical Content for drop-down menu, choose 7342 ISAM FTTU (Fiber to the User).
4. Choose one of the following:
 - a. Click on the Manuals and Guides link for a list of user documents.
 - b. Click on the Release Information link for a list of release notices.
 - c. Click on the Product Alerts link to view Product Discontinuation Bulletins and Technical Bulletins.
 - d. Click on the Technical Notes link to view Product Information Bulletins.
 - e. From the Jump to Content Page drop-down menu, click on the Alerts link to view Technical Alerts. Choose 7342 ISAM FTTU (Fiber to the User) from the Browse Alerts by Product: drop-down menu and click on the Go button.
5. Use the Release and Model/Subgroup drop-down menus to filter the listed documents. Alternately, use your browser to search for the document release and title.
6. Click on the PDF link for the document you want.

Release documentation

Table 1 lists the documents relevant to the 7342 ISAM FTTU ONT R04.06.40 release.

Title	Orderable part number	Description
<i>ONT Software Installation Procedures</i>	3FE 52124 BBAA RJZZA	Provides the instructions for installing the 7342 ISAM FTTU ONT software. Note: This document is located on the ONT Software CD.
<i>ONT Customer Release Notes</i> (this document)	3FE 52124 BBAA DEZZA	Provides application notes, open and closed issues, and software load names for the 7342 ISAM FTTU ONT. Note: This document is located on the ONT Software CD.
7342 ISAM FTTU P-OLT R04.06.08 Customer Documentation CD (ETSI)	3FE 52887 AAAA PMZZA	Provides user manuals for the 7342 ISAM FTTU ETSI market, except for the P-OLT Software Installation Procedures and the OLT Customer Release Notes.

Title	Orderable part number	Description
7342 ISAM FTTU P-OLT R04.06.08 Customer Documentation CD ISO image (ETSI)	3FE 52887 AAAB PMZZA	
7342 ISAM FTTU P-OLT R04.06.08 Customer Documentation compressed archive file (ETSI)	3FE 52887 AAAC PMZZA	
7342 ISAM FTTU ONT R04.06.40 Customer Documentation CD	3FE 53110 AAAA PMZZA	Provides ONT manuals for all current ONT releases, except for <i>the ONT Software Installation Procedures</i> and <i>the ONT Customer Release Notes</i> .
7342 ISAM FTTU ONT R04.06.40 Customer Documentation CD ISO image	3FE 53110 AAAB PMZZA	
7342 ISAM FTTU ONT R04.06.40 Customer Documentation compressed archive file	3FE 53110 AAAC PMZZA	

Table 1 Customer documentation

1.6 Release notation

This software package includes the operational software and release notes for the 7342 ISAM FTTU ONT R04.06.40 release as described in Table 2.

Product	Package part number or name	Part number (media only)	Related 5528 WAM NE Package
ONT R04.06.40 software kit (CD-ROM)	3FE 52124 BBAA	–	–
ONT R04.06.40 software kit (software download)	3FE 52124 BBAB		
ONT R04.06.40 software kit (TAR format)	3FE 52124 BBAC		
The master CD contains:	–	3FE 52124 BBAA PMZZA	–
Files:			
ONT flat file that provides details of the release mapping for network management: ONT_Release_Mapping.txt			
Software:			
Alcatel-Lucent SoC-based data only ONTs			
I-010G-P	–	FE53236AOCA09	N/A

Product	Package part number or name	Part number (media only)	Related 5528 WAM NE Package
I-020G-P	–	FE53215AOCA09	N/A
I-040G-P	–	FE53217AOCA11	N/A
Documentation:			
ONT Software Installation Procedures	–	3FE 52124 BBAA RJZZA	–
ONT Customer Release Notes	–	3FE 52124 BBAA DEZZA	–

Table 2 7342 ISAM FTTU ONT software kit

Table 3 lists the ONT RTU software license and part number.

Description	Part number
ONT R4.x ONT RTU, PFO	3FE 50976 BAAA

Table 3 7342 ISAM FTTU ONT RTU PFO software licences

For ordering information, contact your sales representative. For technical assistance with the software within North America, call +1 613-784-6100 or 1-888-252-2832. In Europe and the rest of the world, check for technical assistance telephone numbers at <http://www.alcatel-lucent.com/support>.

2 Application notes

This section lists important considerations and assumptions for operational behavior associated with Alcatel-Lucent 7342 ISAM FTTU ONT Ro4.06.40. Please also note that section 4 should be referred to for a list of known issues.

2.1 ONT hardware considerations and limitations

- > The I-120G-P, I-240G-P, I-241G-P, I-440G-P, I-241W-P, I-240W-P, I-16160E-P, and I-24240E-P are documented in the 7342 ISAM FTTU ONT user documentation, but are not yet supported.

2.2 ONT services considerations and limitations

- > ONTs delivered prior to the general availability have pre-release software. When upgrading to the general availability software load, the ONTs may need to be reset.
- > When VLAN translation feature is activated at the ONT and a service that uses the VLAN translation feature is associated with multiple pbits, the following is observed:

- The pbits are maintained in the upstream direction.
- In the downstream direction, the pbits are maintained from OLT to ONT. However, the pbit sent to the user from the ONT is always the highest pbit associated with that service.

2.3 I-010G-P, I-020G-P, I-040G-P considerations and limitations

- > ONTs cannot drop priority-tagged frames received on a UNI port in the upstream direction.
- > The ONU UNI port cannot be configured with a default service where traffic is classified based on a wildcard UNI VLAN ID. This means that the UNI port cannot be configured with a default service. An example of a default service: UNI VLAN ID = wildcard and the network VLAN ID = 100. Based on this example, all traffic received which does not match an exact service should be forwarded based on the default service criteria. Instead, all traffic forwarded based on the default service would translate to the received VLAN ID of 100.
- > The system-wide USERCVLANDEF value in PONIGMPSYS should override the channel-specific USERCVLAN value set in ENT-PONIGMPCHN. Currently, the ENT-PONIGMPCHN value is used. See the PONIGMPCHN value in the *7342 ISAM FTTU TL1 Commands and Message* guide for more information.
- > The pause MAC control operation as specified in Annex 31b of 802.3 is not supported.
- > Priority tagged frames are treated as untagged frames.
- > Remote debugging access to the ONT via SSH is not supported.
- > Anti-spoofing support (MAC + IP) is not available.
- > 802.1x is not supported.
- > The ONTENET CVLANDEF value must be provisioned with an ID that does not match the UNISIDEVLAN value of any provisioned flow on the port. See the CVLANDEF and UNISIDEVLAN values in the *7342 ISAM FTTU TL1 Commands and Message* guide for more information.
- > The OLT UNSTACKED mode is not supported.
- > (I-040G-P only) The MTU size for the I-040G-P is 1996 bytes.
- > The ONTs support 12 GEM ports per Ethernet UNI.
- > The ONTs support 7 T-CONTs, includes the OMCI T-CONT.

- > For service provisioning, only flex mode HSI is supported by the ONTs. The legacy HSI mode is not supported.
- > TPID: only a value of 0x8100 is supported.
- > TPID overwrite is not supported (QoS marker profile).
- > Ethernet OAM (802.1ag) is not supported.
- > The ONTs depend on UNI port, VLAN-ID, and VLAN priority to classify the upstream flows. Ethertype and Ethertype + VLAN classification modes are not used. Therefore, after all VLAN operations are performed, packets may be mapped to different GEM ports if at least one of the following conditions are true:
 - they are from different UNIs
 - the resulting VLAN IDs are different
 - the resulting VLAN priorities are different
- > IGMPv3 snooping without SSM is supported. IGMPv3 snooping with SSM is not supported.
- > VLAN translation for multicast replication is not supported. The ONTs support the same VLAN operation for all Ethernet UNIs on the downstream multicast flow.
- > Ethernet UNI is enabled by default the first time the ONTs are connected. The active Ethernet UNI can be disabled via the OLT.
- > When UNTAGDS = XMITNOTAG for the TL1 command ENT-SERVICE-FLOW, if the OLT sends untagged packets downstream to the ONTs, the packets will be dropped by the ONTs. See the ENT-SERVICE-FLOW command in the *7342 ISAM FTTU TL1 Commands and Message* guide for more information.
- > The ONTs depend on MAC learning for packet forwarding. Frames with an unknown destination address are still forwarded, but with a limited throughput of ~500 frames per second. In throughput tests, bi-directional traffic must be used or MAC addresses must be learned.
- > Only four service flows (VLANs) can be enabled with pbit translation in an ONT.
- > The ONTs do not support translation of the same UNISIDEVLAN, the same port, different pbit values into different NETWORKSIDEVLANs. For example, the following configuration is not supported:
 - UNI VLAN ID =100, pbit=1 -> ANI VLAN ID=200, pbit=1
 - UNI VLAN ID=100, pbit=2 -> ANI VLAN ID=300, pbit=2
- > The ONTs do not support rate limiting of DHCP, ARP, and IGMP packets.

- > The ONTs support eight extended VLAN operation rules per Ethernet UNI.

2.4 Provisioning recommendations

HSI:

Alcatel-Lucent recommends using DT = 8 for all HSI service configurations for optimal QoS performance.

Multicast support:

- > The ONTs only support customer-configured multicast streams. IGMP reports sent for unconfigured multicast streams increment the counter that indicates the maximum number of multicast streams allowed in ONT. IGMP reports for unconfigured streams must be quiescent for the default 260 s before the counter is decremented.
- > All ONTs that support two or more Ethernet interfaces can support IPTV on the interfaces. However, IPTV is not supported on Ethernet interfaces simultaneously. For IPTV provisioning, the operator is required to choose one of the interfaces which will support IPTV.

2.5 ONT issue notes and common functionalities for this release

- > **WARNING:** If software that is not intended for use on the ONT is downloaded and activated, the ONT will not operate normally. Functionality of this device may be terminated, requiring unit replacement.
- > Due to a file naming restriction in the NT file system, only 13-character file names can be accommodated, even though 14-character software version names are supported by ONTs per G.983.2. All valid ONT software version names are 14 characters, beginning with the character “3”. When provisioning a software version for an ONT using TL1, it is necessary to add the character “3” to the beginning of the ONT software file name.
- > The REPT-OPSTAT-ONTANI Tl1 command, used to determine the received optical power of the ONT, only works for RSSI-enabled ONTs. See the OPSTAT-ONTANI value in the *7342 ISAM FTTU TL1 Commands and Message* guide for more information.
- > Before doing a rollback of the 7342 ISAM FTTU P-OLT, you must plan the ONT software version to its base release software version. Performing a roll back on the P-

OLT will then activate the base release ONT software and when the system comes up with the rolled-back P-OLT base release, the ONT will be in an IS state.

- > The INACT alarm is reported against the ONT for many conditions such LOS, LOA, LCD, PEE, SUF, SD, ONTDISABLED, MEM, INACT, LOF, SF, DF, LOAM, DOW, RDI, and LOKS. All these conditions trigger the same INACT alarm. The TL1 command REPT-OPSTAT-ONT can help the operator figure out exactly the particular alarm that triggered the INACT alarm. Refer to the *TL1 Commands and Messages Manual* for syntax of the REPT-OPSTAT-ONT command.

3 Hardware and software compatibility

3.1 Software compatibility

Table 4 lists the software that is compatible with ONT 04.06.40.

P-OLT software	R04.06.08 and R04.06.09
ONT software	R04.06.40

Table 4 Software compatibility

3.2 Hardware ONT mnemonics, part numbers, and regional applicability

Table 5 lists the ONT hardware that is compatible with the current system. The regional applicability is ANSI (for ANSI applicable hardware), ETSI (for ETSI applicable hardware), and both (for hardware applicable to both ANSI and ETSI markets).

Hardware mnemonic	ANSI, ETSI, or both	Regional variant	Hardware part number	Raman reduction support?
I-010G-P	ETSI	EU	3FE52957AA	N/A
I-010G-P	ETSI	AU	3FE52957AD	N/A
I-010G-P	ETSI	UK	3FE52957AE	N/A
I-020G-P	ETSI	EU	3FE52957AB	N/A
I-020G-P	ETSI	AU	3FE52957AF	N/A
I-020G-P	ETSI	UK	3FE52957AG	N/A
I-040G-P	ETSI	EU	3FE52957AC	N/A
I-040G-P	ETSI	AU	3FE52957AH	N/A
I-040G-P	ETSI	UK	3FE52957AJ	N/A

Table 5 Hardware compatibility

Additional information can be found in *ONT Product Information Manual*.

4 Open issues

Items identified in this section are known open issues at the time of release of this document. Each open issue is tracked by one or more problem tracking numbers. Problems are tracked by CTR number, if applicable, or by Alcatel-Lucent internal problem report numbers.

4.1 Critical issues

There are no open critical issues.

4.2 Major issues

There are no open major issues.

4.3 Minor issues

The open minor issues for ONT R04.06.40 are listed in Table 6.

Problem #	Description	ONT applicability	HW note	SW note
BDFam57793	ONTCARD always appears in service.	I-010G-P I-020G-P I-040G-P		
BDFam58062	Two 15 minute intervals required before retrieving performance monitoring history counters.	I-010G-P I-020G-P I-040G-P		
BDFam57751	When NUMTAGS = SINGLE parameter is configured in "ENT-SERVICE-FLOW", double and triple tagged packets are not dropped.	I-010G-P I-020G-P I-040G-P		
BDFam57777	IGMP is not supported when the VLAN is configured in cross-connect mode.	I-010G-P I-020G-P I-040G-P		
BDFam57593	Multicast over PPPoE is not supported in either half-proxy or full PPPoE mode.	I-010G-P I-020G-P I-040G-P		
BDFam57568	Static multicast is not supported.	I-010G-P I-020G-P I-040G-P		

Problem #	Description	ONT applicability	HW note	SW note
BDFam57694	An additional tag is added to packets sent upstream when the VLAN is not configured on the OLT.	I-010G-P I-020G-P I-040G-P		
BDFam57904	The following auto-negotiation modes are not supported: <ul style="list-style-type: none"> ● 10_100_1000BASETAUTO ● 1000BASETHD ● AUTOFD ● AUTOHD ● 100BASETAUTO ● 1000BASETAUTO ONTENET does not come into service when the AUTODETECT mode is changed from an unsupported mode to a supported mode. Workaround: Delete the ONTENET configuration and reprovision	I-010G-P I-020G-P I-040G-P		
BDFam58235	LEVELHI and LEVELLO alarms indicating optical signal strength are not supported.	I-010G-P I-020G-P I-040G-P		

Table 6 Minor open issues

5 Closed issues

Table 7 addresses issues that have been identified through customer CTRs or Alcatel-Lucent DDTs and resolved in this release and those that were resolved in past releases.

Problem #	Sev	Description	ONT applicability	HW note	SW note	Country
ONT R04.06.40						
None, Introduced I-010G-P, I-020G-P, and I-040G-P						

Table 7 Closed issues

6 TL1 and CLI command changes

For a list of new, deleted, or changed TL1 commands, see “Table 38 New, modified, or removed TL1 commands for FGU 4.6” section of the *Alcatel-Lucent 7342 ISAM FTTU*

TL1 Commands and Messages document. For a list of applicable CLI commands, see the “History” section of the *Alcatel-Lucent 7342 ISAM FTTU CLI Commands* document.

7 Terms and abbreviations

Table 8 lists the terms and abbreviations used in this Customer Release Notice.

Acronym or term	Expansion or definition
AES	Advanced Encryption Standard
AIS	Alarm Indicator Signal
AMS	Access Management System
ANI	
ANSI	American National Standards Institute
ARP	Address Resolution Protocol
AU	Australia/China
BITS	Building Integrated Timing Source
CFR	Code of Federal Regulations
CLI	Command Line Interface
CR or Critical issues	Critical problems that severely affect service, capacity/traffic, billing, and maintenance capabilities.
CRN	Customer Release Notes
CTR	Customer Ticket Reference
D.H.H.S.	Department of Health and Human Services
DHCP	Dynamic Host Control Protocol
DSCP	Differentiated Services Code Point
ETSI	European Telecommunications Standards Institute
EU	European Union
FCC	Federal Communications Commission
FEC	Forward Error Correction
FTTU	Fiber to the User
GE	Gigabit Ethernet
GEM	Generic Encapsulation Method
GLT2	GPON Line Termination card with 2 PONs
HIS	High Speed Internet
IBV	In-band Video
IGMP	Internet Group Management Protocol
IP	Internet Protocol
IPTV	Internet Protocol Television
IS	In Service

Acronym or term	Expansion or definition
ISAM	Intelligent Services Access Manager
LAG	Link Aggregation Group
LT	Line Termination
MAC	Media Access Control
MJ or Major issues	Major problems that cause conditions that seriously affect system operation, maintenance, and administration, etc. The urgency is less than in level 1/critical situations because of a lesser immediate or impending effect in system performance, customers, and the customer's operation and revenue.
MN or Minor issues	Minor problems do not significantly impair the functioning of the system and do not significantly affect service to customers.
MTU	Maximum Transmission Unit
NE	Network element
NEBS	Network Equipment Building System
NG	Next Generation ONTs
NSIT	Network Systems Integration Testing
NT	Network Termination
OAM	Operations, Administration, and Maintenance
ODN	Optical Data Network
OLT	Optical Line Termination (also referred to as P-OLT)
OMCI	ONT Management Control Interface
ONT	Optical Network Terminal
ORL	Optical Return Loss
OSWP	Overall Software Package
P-OLT	Packet-Optical Line Termination (also referred to as OLT)
Pbit	Priority bit
PON	Passive Optical Network
PPPoE	Point-to-point Protocol over Ethernet
PQ	Priority queue
PFO	Premium Feature Option
QoS	Quality of Service
RSTP	Rapid Spanning Tree Protocol
RADIUS	Remote Authentication Dial-In User Service
RMA	Return Material Authorization
RSSI	Received Signal Strength Indicator
RTU	Right to use
SFTP	Secure File Transfer Protocol
SHub	Service Hub (also known as LANX)
SNMP	Simple Network Management Protocol
SoC	System on Chip
SSH	Secure Shell

Acronym or term	Expansion or definition
STP	Spanning Tree Protocol
SWCAP	Loss of switch over capability
TFTP	Trivial File Transfer Protocol
TL1	Transaction Language 1
TPID	Tag protocol identifier
UK	United Kingdom
UL	Underwriters Laboratories, Inc.
UNI	User-Network Interface
VLAN	Virtual bridged Local Area Network

Table 8 Terms and abbreviations