ISODE CONSORTIUM

IC R2.1v2

Release Notes

November 14, 1994

This documentation and the software are based on contributions from multiple sources. Acknowledgements for contribution are given in *ISODE Volume 1: Introduction to ISODE Consortium, Products and Membership*.

This manual is associated with Version 2.1 of November 1994, and was last updated in November 1994.

Contents

Chapter 1

Introduction

These release notes are provided as a supplement to the ISODE documentation set. They provide information about changes since the last full release: IC R2.0v3 (SL-13), 16th June, 1994. This information includes:

- Additions and changes to the the functionality of the software including notes on related problems or potential problems. Some manuals of the documentation set have also been updated and the changes are outlined.
- A list of recorded defects that have been resolved since IC R2.0v3.
- A summary of the number of outstanding recorded defects along with brief descriptions of the more serious of these.

These notes should be read in conjunction with the full documentation set and in particular with *ISODE Volume 2: Administrator's Guide: Installation*. You are advised to read these carefully before proceeding with installation.

If you are upgrading from a release prior to IC R2.0 then you should also read the release notes from IC R2.0v3.

Chapter 2

Major Changes

2.1 ANSI C conversion

There has been further work bringing parts of the source code into line with ANSI C. These changes are spread throughout the code.

All calls to `index()` have been replaced by calls to `strchr()`. All calls to `rindex()` have been replaced by calls to `strrchr()`.

Many occurrences of the use of the manifest constant `NULL` to mean integer or character constant zero have been replaced with `0`.

These changes, and many other small fixes, are designed to improve portability, particularly to HPUX and ULTRIX.

2.2 Protocol Stack

There has been significant rework in the TSAP library. This has mostly been associated with much better support of TLI and XTI provided Transport Services. This includes options for SunLink OSI 8.0 and providers based on the Retix stack. The TLI and XTI support has been combined into a single module and *isode/src/lib/ll/tsap/ts2xti.c* has been removed.

Support is not provided for direct access to SunLink X.25 8.0; SunLink OSI 8.0 must be used. This is a general trend and we intend to support access to X.25 and RFC1006/TCP subnetworks via kernel-supported Connection Oriented Transport Service providers where available.

2.2.1 Configuration

There are a number of related changes to build-time and run-time configuration. These relate to the following cases:

1. When a TLI or XTI API is being used to access Connection Oriented Transport Service (COTS).

2. When the kernel-provided COTS (via either TLI or XTI) supports both CONS and CLNS stacks and separate action is needed to access each stack.

3. When the kernel-provided COTS can handle Network Addresses which look like either X.25 addresses (X.121 form of Network Address with no DSP) or RFC1006 addresses.

The *$(ETCDIR)isotailor* configuration variable `ts_stacks` now accepts the value `cots`, instead of `tp4` which is obsolete.

The *$(ETCDIR)isotailor* configuration variable `tp0_ts1_timer` is now defined. This controls the period (in seconds) which the user-space TP0 implementation will wait for Transport connection establishment after Network connection establishment. The default value is `0` which is interpreted as infinite. This facility only works with synchronous connection establishment.

Support for obsolete configuration variables will be withdrawn in IC R3.0.

TLI and XTI

There are several new configuration defines for TLI and XTI in the sample *config.h* files. The comments next to these should be sufficient.

The *$(ETCDIR)isotailor* configuration variables `tli_cots_dev`, `tli_clts_dev`, `xti_tp0_ident` and `xti_tp4_ident` are now obsolete and are replaced with `tli_cons_dev` and `tli_clns_dev`.

New *$(ETCDIR)isotailor* configuration variables `local_cons_nsap` and `local_clns_nsap` are introduced. If only a single stack is used then `local_nsap` is still sufficient. In any case `local_nsap` should be configured as appropriate for `nsap_default_stack`. These need to be set when the underlying transport provider requires that local endpoints are bound to an appropriate Network Address (for example, SunLink OSI 8.0).

If it is necessary to use separate devices (`tli_cons_dev` and `tli_clns_dev`) or separate local Network Addresses (`local_cons_nsap` and `local_clns_nsap`) for access to the two underlying Network Services via COTS, then there are both build-time and run-time changes. `TLI_2_STACKS` should be defined in `h/config.h`. The value `cots2` may be added to `ts_stacks` in *$(ETCDIR)isotailor*. The file *$(ETCDIR)isonsapsnpa* must be configured to distinguish between stacks for outgoing calls.

COTS use of X.25 and RFC1006 addresses

If the COTS provider can support X.25 addresses (for example, SunLink OSI 8.0 with SunLink X.25 8.0, HPUX OTS C.03.00 or later, DECnet/OSI) then `X25_VIA_COTS` should be defined in *h/config.h*.

If the COTS provider can support RFC1006 addresses (for example, HPUX OTS C.04.01 or later, not yet DECnet/OSI) then `TCP_VIA_COTS` should be defined in *h/config.h*.

2.3 Messaging Services

2.3.1 MTA

The *p2explode* and *mimexplode* channels have been significantly reworked to better handle resubmission when explosion determines that additional reformatting may be necessary because of better knowledge of a message's contents. The corresponding directories have been removed from the source pool and are replaced by the single directory *isode/src/apps/pp/Format/exploder*.

The communication between the Qmgr and the *pptsapd* process of the name of the channel to start has been changed from using the Transport selector to using the Session selector. The consequence is that this communication is no longer restricted to using a user-space TP0 stack (the last sentence of the `pptsapd_addr` entry in section 2.2.1 of *ISODE Volume 4: Administrator's Guide: Message Handling Services*, and the footnote, no longer apply).

2.3.2 Message Store

Access to the Message Store via the LMAP protocol is added with the provision of an LMAP protocol server and client API libraries. The API is described in *IC-1011: Programmer's Guide: Message Store*.

The P7 server includes the following additional functionality:

- Support for child-sequence-numbers and parent-sequence-numbers including resolution of the difference in approach between X.413 and LMAP on support of forwarded messages.
- MessageBodypartSynopsis added to the IPMSynopsis attribute.
- Retrieval of message bodyparts.
- Support of the returned-ipm attribute in the existing build routines.
- Processing of the auto-actions, defaults, and security-labels components of the Register-MS argument by storing them as annotations of the user's root folder.
- Use of defaults if no requested-attributes elements have been specified in the List or Fetch operations.
- Support of Allowed-content-types, allowed-EITs, and maximum-content-length content restrictions while binding to the Message Store.
- Expansion of attribute syntax handlers to prevent overloading of handlers associated with a syntax, and to include address conversion between LMAP and RFC822, and print attribute handlers.
- The generation of Non-receipt Notifications upon the deletion of an un-fetched messages is now available. The functionality was not present in beta test and is not enabled by default.

  To enable generation of non-receipt notifications, define the symbol `GENERATE_NRNS` in file *isode/src/apps/pumice/p7server/op_delete.c*.

Full configuration of Message Store users via the Directory is now possible.

For each Message Store user, two Directory entries are required, one named with a "real" DN, which contains the user's configuration information, and a second entry with a name algorithmically derived from the user's O/R Address. Each entry contains an attribute which points to the other entry. A sample configuration is shown below.

```
cn=Fred Bloggs, O=Org, C=GB
objectClass           - newPilotPerson & msUser
commonName            - Fred Bloggs
surname               - Bloggs
userPassword          - Read but not displayed
mailboxRoot           - /spool/pumice/fb
mailboxAddr           - /I=F/S=Bloggs/O=Org/ADMD=XX/C=GB/
mailboxUid            - 125
mailboxGid            - 500

cn=F.Bloggs, mHS-O=Org, aDMDName=XX, c=GB, cn=mail-admin, o=Org, c=GB
objectClass           - mHSPerson & routedUA
commonName            - F.Bloggs
uAName                - countryName=GB
                        organizationName=Org
                        commonName=Fred Bloggs
```

As can be seen from the example above, the Distinguished Name of the second entry is derived from the O/R Address in the `mailboxAddr` attribute of the user in question by applying the mappings specified in the Internet-Draft titled "Representing the O/R Address hierarchy in the Directory Information Tree" (S.E. Kille, ISODE Consortium), and using a fixed prefix DN (in this case `cn=mail-admin, o=Org, c=GB`). The value of this fixed DN is configured using a new Message Store tailoring variable, `routing_prefix`. An example is given below.

```
routing_prefix:"cn=routing-tree, o=Org, c=GB"
```

Details of the attributes contained in the first entry shown above can be obtained from *ISODE Volume 6: Administrator's Guide: Message Store*. The only special attribute required in the second entry above is `uAName`. This attribute has syntax DistinguishedName, and should point back to the first entry of the pair.

To enable use of the Directory for all user configuration, ensure that the Message Store code has been built with `LDAPTOO` defined in *isode/src/h/pumice/lmap.h*, that Message Store tailoring variables `directory_file` and `mhsds_file` are *not* set, and that tailoring variable `ldap_host` is set.

2.4 X/OPEN API support

The X/OPEN XOM and XDS APIs are provided, along with supporting tools. XOM is the X/OPEN general-purpose API for OSI Object Management, defined in their publication: *CAE Specification: OSI-Abstract-Data Manipulation API (XOM), Issue 2*. XDS is the X/OPEN general-purpose API to directory services, defined in their publication: *CAE Specification: API to Directory Services (XDS), Issue 2*.

A preliminary sample application can be found in ... */apps/xapi/xds_test*.

This is the first release of this code and it has not been heavily tested.

2.5 Documentation

Some of the manual volumes have been updated to reflect the new and changed functionality in this release. In summary:

ISODE Volume 2: Administrator's Guide: Installation
: This has had minor edits.

ISODE Volume 6: Administrator's Guide: Message Store
: Configuration details for use of LMAP have been added.

IC-1011: Programmer's Guide: Message Store
: A draft version of this manual was shipped with IC R2.1b1. It is currently being reworked as two volumes, *IC-1002: Lightweight Mail Access Protocol API and Specification* and *IC-1203: Message Store Developer's Guide*, which will be available shortly. No manual is available now.

The newer manuals generated using FrameMaker (volumes 1, 6 and 11) include an experimental patch to the PostScript prologue which should improve placement of the printed matter on the physical page on US Letter and A4 paper sizes. We are interested to receive any comments on this.

Chapter 3

Defects Resolved in This Release

Defects resolved since IC R2.0v3 are summarised in the following table.

	Defect Severity					
Project	1	2	3	4	5	**Total**
IC.base	0	2	18	9	3	32
IC.build	0	0	1	1	1	3
IC.contrib	0	0	0	0	0	0
IC.doc	0	0	0	0	0	0
IC.dsap	0	0	3	4	1	8
IC.dua	0	0	0	0	0	0
IC.ftam	0	0	0	0	0	0
IC.gda	0	0	0	0	0	0
IC.general	0	0	1	1	0	2
IC.ms	0	13	20	1	0	34
IC.mta	1	13	20	11	2	47
IC.quipu	1	2	1	0	0	4
IC.snmp	0	0	0	0	0	0
IC.vt	0	0	0	0	0	0
IC.xapis	0	0	0	0	0	0
Total	2	30	64	27	7	130

The following sections document those defects that have been resolved since IC R2.0v3. Those bugs that are marked with * have been fixed since IC R2.1b1. The phrase in parentheses after each headline indicates the type of resolution: for example *'(source code)'*.

3.1 `IC.base` – Basic transport, tools, services etc

GENERIC

`RMDgf00170` — **Undeclared/available errno, string.h, opendir. . . , getcwd** *(no fix)*

`RMDgf00529` — **Use of ANSI C style decls in conjunction with C++** *(source code)*

`RMDgf01099` — **Unable to build without TCP defined in config.h** *(source code)*

OTHER

`RMDgf00277` — **Problems with Ultrix (and HPUX) portability** *(source code)*

`RMDgf00872` — **LICENSING-RIGHTS still refers to IC R1** *(documentation)*

`RMDgf00925` — **asn1/pepsy.h needs to have P_ defined** *(source code)*

`RMDgf01050` — **alias2name() memory read error on zero-length string** *(source code)*

ASN.1 BER library – `asn1-ber`

`RMDgf00980` — **new file containing oct2str() moved from pepsy library** *(source code)*

`RMDgf01022` — **oid_cmp() second arg NULLOID causes segfault** *(source code)*

`RMDgf01106` — **qb_cpy() routine should be moved here from syntax/x500/string.c** *(source code)*

pepsy application – `asn1-pepsy`

`RMDgf00388` — **Protect asn1/pepsy2/vprint.c:oct2str() against NULL ptr** *(source code)*

`RMDgf01023` — **Link of pepsy fails with duplicate 'save_ptr'** *(source code)*

`RMDgf01025` — **OFFSET/AOFFSET macros will not compile: should use std offsetof macro** *(source code)*

`RMDgf01055` — **pepsy does not put annotated typename in .ph file** *(language tools)*

pepsy library etc – `asn1-support`

`RMDgf00933` — **asn1/asn1.h doesn't include time.h for "struct tm"** *(source code)*

lower layers (tsap, converge, etc) – `ll`

`RMDgf00326` — **TLI interface code cannot handle extra CONind between CONind and CONacc** *(source code)*

`RMDgf00350` — **isodexport() does not set Session timer values** *(source code)*

`RMDgf00513` — **User-space TP0 implementation does not use TS1 connection timeout.** *(source code)*

`RMDgf00739` — **The TLI/XTI interface code needs generalisation** *(source code)*

`RMDgf00848` — **ts2sunlink.c is missing a forward declaration** *(source code)*

`RMDgf00851` — **extraneous text on #endif in ll/converge/ultrix25.c** *(source code)*

`RMDgf00967` — **Bad call to tp4bind() in ts2xti.c** *(source code)*

`RMDgf00976` — **ts2tli changes for Retix TLI** *(source code)*

`RMDgf01026` — **Use of BSDSIGS needs more cleanup for Ultrix and HPUX** *(source code)*

`RMDgf01027` — **ultrix25.c needs changes for STD C** *(source code)*

`RMDgf01041` — **getpassword() can block indefinitely in stty() call** *(no fix)*

`RMDgf01053` — **SunLink OSI 8.0 support needed** *(source code)*

`RMDgf01072` — **HPUX X.25 minor problems (use of free() and CUG ident)** *(source code)*

session services library – `ssap`

`RMDgf00409` — **free-then-use error in lib/ul/ssap/ssaprovider.c** *(source code)*

`RMDgf00854` — **There is some confusion around received exceptions** *(source code)*

`RMDgf01165`* — **tsdu2spkt.c:end_spdu bad memory access iff SPDU size 253-254** *(source code)*

transport listeners – `tsapd-iaed`

`RMDgf00769` — **conflict in use of '-a' between X25 and XTI_TP** *(source code)*

3.2 `IC.build` – Build system for the IC distribution

`RMDgf00853` — **Library builder cannot build HPUX shared libraries (does not know how)** *(language tools)*

`RMDgf01190`* — **Some Makefile hardwire use of -g in CFLAGS or LDFLAGS** *(source code)*

`RMDgf00799` — **template.man has wrong RCS prefix** *(source code)*

3.3 `IC.dsap` – Directory service support library

OTHER

`RMDgf00808` — **quipu/dap.h does not include compat/general.h for P_ macro** *(source code)*

`RMDgf01018` — **C++ header incompatibility** *(source code)*

`RMDgf01019` — **C++ header incompatibility** *(source code)*

General DUA/DSA utility routines – `common`

`RMDgf00994` — **llib-common is obsolete and should be removed** *(source code)*

`RMDgf01035` — **Missing comment delimiters after #endif in lib/dsap/common/kerberos.c** *(source code)*

Configuration files (oidtables, tailor, etc) – `config`

`RMDgf01052` — **cn=condor changed address, so we should re-build root-dsas list** *(data file)*

quipu, pilot, and x500 syntax handlers – `syntax`

`RMDgf00866` — **acl.c missing static declaration for acl_print_aux()** *(source code)*

Protocol encoders/decoders – `x500as`

`RMDgf01037` — **do.py should not cast last parameter of build_DSE_PSAPaddr** *(source code)*

3.4 `IC.general` – For defects relating to more than one project

GENERIC

`RMDgf00676` — **conflict between h/quipu/util.h and h/pp/util.h** *(source code)*

`RMDgf00727` — **use of index()/rindex() instead of strchr()/strrchr()** *(source code)*

3.5 `IC.ms` – The Message Store (pumice), puma, etc

GENERIC

`RMDgf01039` — **ipm-entry-type attribute not supported completely** *(source code)*

.../src/lib/pumice/lmapa – `attrib-library`

`RMDgf00836` — **Problems with fetching complete OR-Names** *(not a bug)*
On further analysis it looks as though this may be a problem with a test program, not the message store.

`RMDgf00936` — **make clean doesn't remove auto-generated p7.py** *(source code)*

`RMDgf01126` — **O/R Descriptor containing DN incorrectly built from LMAP attributes** *(source code)*

`RMDgf01127` — **dec_utcprint() tries to free static memory** *(source code)*

`RMDgf01131` — **Proof of delivery generated incorrectly by p7server** *(source code)*

`RMDgf01136` — **Notifications on ORDescriptor not built correctly** *(source code)*

`RMDgf01139` — **pepsy ↔ lmap attribute handlers incorrect for boolprintable syntax** *(not a bug)*

`RMDgf01158*` — **ORdescriptor→LMAP address convertion crashes if passed an empty ORDescr** *(source code)*

`RMDgf01161*` — **Intermittant failure when building MessageBodypartSynopsis** *(source code)*

`RMDgf01163*` — **Missing handlers for lm-or-address addressing attribute** *(source code)*

`RMDgf01164*` — **Attribute library builds content with extended-bodyparts for 1984 IPM** *(source code)*

`RMDgf01187*` — **p7.ry does not include the MSGeneralAutoActionTypes definitions** *(source code)*

.../src/lib/pumice/lmapdb – `db-library`

`RMDgf00966` — **DB Unbind crashes if not bound and tracing turned on** *(source code)*

`RMDgf00986` — **DB create fails for zero-length bodypart** *(source code)*

`RMDgf01021` — **Address scan defaults only include ORAddress and DirectoryName elements** *(configuration)*

`RMDgf01094` — **Valid_range multiply defined on RM600** *(source code)*

`RMDgf01162*` — **DB library still gets confused with address lists more that 9 long** *(source code)*

`RMDgf01186*` — **Flat file database implementation cannot read attributes longer than 1k** *(source code)*

.../src/apps/pumice/lmapd – `lmapd`

`RMDgf00962` — **lmapd Makefile is missing $(LIBS) in LIBES** *(source code)*

.../src/apps/pumice/p7server – `p7server`

`RMDgf00729` — **Returned content and individual message bodyparts not supported.** *(source code)*

`RMDgf00797`* — **Notifications are not generated automatically by the Message Store** *(source code)*

`RMDgf01138` — **p7server may crash when generating an invalid-recipient error** *(source code)*

`RMDgf01140` — **Upper bound on number of optional attributes listed on bind result** *(source code)*

`RMDgf01152`* — **p7server builds sequence number attribute incorrectly sometimes** *(source code)*

`RMDgf01160`* — **Fetching just IPMSynopsis fails** *(source code)*

`RMDgf01173`* — **Problems building ipm-body attribute when also building ipm-synopsis** *(source code)*

`RMDgf01174`* — **Sequence number → name mapping can get corrupted when deleting messages** *(source code)*

`RMDgf01182`* — **P7server leaks Q_structs on submission** *(source code)*

`RMDgf01183`* — **Failure to decode a probe submission argument should cause error return** *(source code)*

.../src/apps/pumice/puma – `puma`

`RMDgf01128` — **Puma should use PP make files, rather than normal ISODE ones** *(source code)*

.../src/lib/pumice/lmapu – `util-library`

`RMDgf00982` — **File based DN↔ORAddress mapping compares addresses badly** *(source code)*

`RMDgf01148`* — **First-ever build of annotations sequence number mapping not correct** *(source code)*

`RMDgf01189`* — **Directory lookup can fail on non-Sun versions of Unix** *(source code)*

3.6 `IC.mta` – The MTA (pp) and associated utilities

. . . /Chans/822-local – `822-local-channel`

`RMDgf00544` — **Delivery-Date value not set if user doesn't have a mailfilter** *(source code)*

GENERIC

`RMDgf00424` — **rcvtrip - don't autoreply to PP's authorization warnings** *(source code)*

`RMDgf00554` — **qmgr is moving msgs to msg-clean which have not been delivered** *(no fix)*

`RMDgf01114` — **ch_show value printed in logs when may be NULL** *(source code)*

. . . /Src/MTAconsole – `MTAconsole`

`RMDgf00270` — **two MTAconsole bugs (was four)** *(source code)*

`RMDgf00627` — **MTAconsole dies if tailor file/qmgr changes** *(source code)*

. . . /Lib/addr – `addr-library`

`RMDgf00738` — **ap_ut.c:ap_filnode() will try and trace null pointer** *(source code)*

. . . /Format/asn – `asn-formatter`

`RMDgf00972` — **GeneralText ASN.1 definition wrong and bad code** *(source code)*

. . . /Tools/ckadr – `ckadr`

`RMDgf01104` — **verbose mode doesn't print PP-alias redirection** *(source code)*

. . . /Tools/ckconfig – `ckconfig`

`RMDgf01103` — **ckconfig doesnt treat <return> to mean default yes at prompt** *(source code)*

exploder-formatter

`RMDgf00973` — **reparseRecip() only happens for a single recipient** *(source code)*
Both *mimexplode* and *p2explode* now correctly call reparseRecip() for all a message's recipients when exploding the message. This means that each recipient will either get a reformatter list appropriate for the destination channel or a DR will be generated because no such reformatter list could be generated.

See also `RMDgf01002`.

`RMDgf01002` — **DR not generated if formatter path unavailable** *(source code)*

. . . /**Chans/filtercontrol –** `filtercontrol-channel`

`RMDgf00958` — **make clean doesn't remove xzremovebp** *(configuration)*

. . . /**Lib/io –** `io-library`

`RMDgf00965` — **wr_dr_info won't build DR security elements** *(source code)*

`RMDgf01008` — **log exception when fork fails** *(source code)*

`RMDgf01058` — **wr_dr_info() updates Q file before writing report** *(source code)*

. . . /**Chans/lists –** `lists-channel`

`RMDgf01122`* — **tailoring to allow for zero recipients** *(source code)*

. . . /**Format/mhsmime –** `mhsmime-formatter`

`RMDgf01177`* — **bilateral becomes application/octetstring, not application/octet-stream** *(source code)*

. . . /**Lib/mime –** `mime-library`

`RMDgf00920` — **sometimes fails to parse content-transfer-encoding** *(source code)*

`RMDgf01146`* — **Content-type charset defaults to illegal value (usascii, c.f us-ascii)** *(source code)*

. . . /**Format/mimemhs –** `mimemhs-formatter`

`RMDgf00760` — **image/g3fax crashes on SunOS 5.3** *(source code)*

. . . /**Lib/or –** `or-library`

`RMDgf00963` — **orn-dec.c needs change for PSAPaddr to compile** *(source code)*

`RMDgf01098` — **Passing NULL to %s for or_ddname in trace** *(source code)*

. . . /**Chans/p3file –** `p3file-channel`

`RMDgf00959` — **make clean doesn't remove zxp3filetopp & xzpptop3file** *(configuration)*

.../**Lib/pp** – `pp-library`

`RMDgf00896` — **fax channel dumps core, get bad deliv state: wr_dr_stat problem** *(source code)*

`RMDgf01089` — **list channel strips que security elems** *(source code)*

`RMDgf01178`* — **Recovering P1 extensions from text wants too few arguments** *(source code)*

.../**Src/qmgr** – `qmgr`

`RMDgf00407` — **qmgr bad args unnoticed cause possible segfault** *(source code)*

.../**Chans/smtp** – `smtp-channel`

`RMDgf00428` — **smtp rejects MTAs when DNS is down** *(source code)*

`RMDgf00462` — **change description in SMTP eror messages to make more informative** *(source code)*

`RMDgf00898` — **smtp does not return in NDR smtp return text except for addr errors** *(source code)*

`RMDgf01007` — **exception logging for smtp EXPN does not print incoming host address** *(source code)*

.../**Lib/submission** – `submission-library`

`RMDgf00952` — **resubmit rewind_addr doesn't clear ad_redirection_history** *(source code)*
The symptom of this problem was that mail addressed to an aliases could not be "resubmitted" by unflatteners such as *mimexplode*—the error reported was redirection loop detected.

`RMDgf01083` — **encrypted messages must not be exploded** *(source code)*

.../**Src/submit** – `submit`

`RMDgf01118` — **UB constraint checking on content correlator forgets encoding** *(source code)*

.../**Tools/tables** – `tables-tools`

`RMDgf00805` — **aliases man page has wrong RCS prefix characters** *(source code)*

.../**template** – `template`

`RMDgf01057` — **those nonconformant to coding standards should be removed** *(source code)*

.../**Lib/util** – `util-library`

`RMDgf01188`* — **utclocalize get timezone information wrong** *(source code)*

.../**Chans/x40084** – `x40084-channel`

`RMDgf00893` — **RTS abort after receiving DR with invalid address** *(source code)*

`RMDgf01045` — **may leave messages locked when a connection fails** *(source code)*

`RMDgf01147` — **PP not retrying X.400(84) connection** *(no fix)*
Problem is not reproducible.

`RMDgf01170`* — **Sometimes doesn't admit responsibility for DRs** *(source code)*

.../**Chans/x40088** – `x40088-channel`

`RMDgf00581` — **Ultrix problem compiling x400out88 on DECstation** *(source code)*

`RMDgf00955` — **may generate invalid redirection history reasons if aliases** *(not a bug)*

`RMDgf01066` — **Osiware complains of extra EOC in some messages** *(not a bug)*
Detailed analysis of the X.25 trace on the receiving OSIWARE system revealed no problem with the message sent by the IC R1.1v3 MTA. A patch is available from OSIWARE to avoid aborting the RTS session.

.../**Lib/x500** – `x500-library`

`RMDgf01049` — **pp_syntaxes() does not call mhsrouting_syntaxes()** *(source code)*

.../**Tools/x500misc** – `x500misc-tools`

`RMDgf00806` — **x500misc dish doesn't build, but other tools do** *(configuration)*

3.7 `IC.quipu` – QUIPU DSA and associated utilities

`RMDgf01014` — **crash from ds_res_free after chained read** *(no fix)*
Problem was not in the IC release but caused by faulty customer modification.

`RMDgf01056` — **Free memory read in dsa_chain.c: subtask_error_wakeup()"** *(source code)*

`RMDgf00533` — **QUIPU crash accessing delegate** *(no fix)*
This was caused by a particular internal IC configuration and has not been reported from elsewhere.

`RMDgf00989` — **Case sensitivity in RDNs can cause duplicate entries** *(no fix)*
: There were some vague reports that RDN case sensitivity could cause duplicate entries to be created thus causing quipu to fail to load when restarted. Upon investigation the duplicates appear to have been created by customer's tools used to update the DIT. The bug has been closed in the absence of any evidence that QUIPU is at fault.

Chapter 4

Known Problems in This Release

Currently unresolved defects are summarised in the following table.

Project	Defect Severity 1	2	3	4	5	**Total**
IC.base	0	5	26	4	2	37
IC.build	0	0	10	9	4	23
IC.contrib	0	1	7	2	0	10
IC.doc	0	0	11	11	0	22
IC.dsap	0	1	16	10	2	29
IC.dua	0	5	6	4	0	15
IC.ftam	0	0	2	2	0	4
IC.gda	0	0	7	1	0	8
IC.general	0	0	7	7	0	14
IC.ms	0	1	6	2	0	9
IC.mta	0	7	82	39	12	140
IC.quipu	0	6	18	5	2	31
IC.snmp	0	0	10	4	1	15
IC.vt	0	0	0	1	0	1
IC.xapis	0	1	8	0	0	9
Total	0	27	216	101	23	367

Summaries of the most severe defects (those with severity 1 or 2) are given below.

4.1 `IC.base` – Basic transport, tools, services etc

GENERIC

`RMDgf00431` — **Lower layers can block in async mode with partial TPDUs**
This problem relates to use of the user-space TP0/RFC1006 stack and the same problem can occur with some implementations of user-space TP0/X.25. In these cases an

application which has requested asynchronous (non-blocking) I/O can block on a network endpoint once the start of a TPDU has arrived. It will block until the remainder of the TPDU arrives. The effect of this is that the application may block for long periods if there is serious delay in the reception of the remainder of the TPDU. This mostly affects QUIPU.

OTHER

`RMDgf00763` — **h/compat/general.h not POSIX compliant**

pepsy application – `asn1-pepsy`

`RMDgf00559` — **Free functions not honoured if no decode function.**

`RMDgf00560` — **Generated .c files contain dubious definitions for user functions.**
Pepsy automatically generates declarations of referenced functions. However, these declarations do not have ANSI C prototypes and, therefore, conflict with any "full" declarations #included into the generated source.

pepsy library etc – `asn1-support`

`RMDgf00561` — **Bad parameter type passing to user functions.**

4.2 `IC.contrib` – Externally contributed software

GENERIC

`RMDgf00725` — **Compilation errors with GCC on Solaris 2 in contrib software**

4.3 `IC.dsap` – Directory service support library

Protocol encoders/decoders – `x500as`

`RMDgf01088` — **cdefs.h files need prototypes for fns referenced in .py files**

4.4 `IC.dua` – DUAs, associated utilities, and libraries

Lightweight BER library – `liblber`

`RMDgf01036` — **Writing empty SEQUENCE OF or SET OF can cause core dump**

X-Lookup – `xlu`

`RMDgf00310` — **xlu null dereference on Modify**

`RMDgf00621` — **xlu add entry does not work**

`RMDgf00764` — **xlu crash after modify security error**

`RMDgf00970` — **xlu bus error when typing attribute value in modify**

4.5 `IC.ms` – The Message Store (pumice), puma, etc

.../src/lib/pumice/lmapdb – `db-library`

`RMDgf00913` — **Creating a new folder does not cause an annotations file to be created**
When you create a new folder the Message Store database should create an "anno" file in the folder automagically, but doesn't. An application which uses the LMAP API could use `lmap_create()` to explictly create an annotations file in the new folder if required.

4.6 `IC.mta` – The MTA (pp) and associated utilities

GENERIC

`RMDgf00380` — **Apostrophes in 822 names not coped with by submit**
Apostrophes (single quote characters) are legal characters in an unquoted local part of an RFC 822 address, but *submit* cannot handle them.

.../Format/p2explode – `p2explode-formatter`

`RMDgf01107` — **p2explode doesn't explode extended-message-bodypart**

. . . /**Src/qmgr –** `qmgr`

`RMDgf00745` — **qmgr does not cope with deferred-delivery time > return-time**

. . . /**Chans/smtp –** `smtp-channel`

`RMDgf00330` — **Use of DNS search can match unwanted local MX wildcard**

If the local DNS resolver library configuration specifies a default domain to be used when making queries then a lookup for an MX record, in the case where the target domain has no MX record, may match a wildcard MX record for the default domain. For example, if the default domain is `isode.com`, there is a wildcard MX record for `*.isode.com` and the target domain (say `reo.dec.com`) has no MX record, then a match will be made like `reo.dec.com.isode.com`.

Workaround. There are two possible workarounds. Remove any default (local) domain definition from the local resolver configuration file (usually */etc/resolv.conf*), or define `RES_MKQUERY_ONLY` in *ppconfig.h* and rebuild the PP library and SMTP channel programs.

. . . /**Src/submit –** `submit`

`RMDgf00892` — **submit doesn't set up reformatting list for authorization warnings**

This can cause the X.400 outgoing channel programs to exit, logging bad content type (null).

`RMDgf00974` — **RFC1327 creates MTS-Identifier and initial Trace with different GDIs**

The algorithms defined in RFC1327 may generate different Global Domain Identifiers for the MTS-Identifier and first TraceElement of a message when it is converted from RFC822 to X.400. On the face of it this does not appear to be a problem but it is claimed that both UK and US GOSIP specifications require the same GID to be used for both elements. The following is taken from US GOSIP:

> 6.7.e MPDI Identifier Validation
>
> **(1)** Validation of the GlobalDomainIdentifier component of the MPDU Identifier is performed on reception of a message (i.e. the result of a TRANSFER.Indication).
>
> **(2)** The country name should be known to the validating domain, and depending on the country name, validation of the ADMD name may also be possible.
>
> **(3)** Additional validation of the GlobalDomainIdentifier is performed against the corresponding first entry in the TraceInformation. If inconsistencies are found during the comparison, a non-delivery notice with the above defined reason and diagnosticcode is generated.
>
> **(4)** A request will be generated to the CCITT for a more meaningful diagnostic code (such as "InconsistentMPUTIdentifier").

. . . /**Chans/x40084 –** `x40084-channel`

`RMDgf01192` — **Received per-domain bilaternal info badly decoded (x400in84)**

Do not configure a peer MTA to send per-domain bilateral-info or use the x400in88 channel instead.

.../**Chans/x40088** – `x40088-channel`

`RMDgf01149` — **Failure to build DR will result in stuck message** *(no fix)*

4.7 `IC.quipu` – QUIPU DSA and associated utilities

`RMDgf00712` — **Default ACL overrides inherited ACL in SLAVE copies**
If a DSA slaves an EDB and a second EDB containing an inherited ACL attribute for use by the entries in the first EDB, then the inherited ACL attribute will not take effect if the first EDB is received before the second. This is particularly a problem when bootstrapping a DSA.

`RMDgf01060` — **purify errors leading to crash during subtree search of root**

`RMDgf01061` — **repeated crash when a DSA becomes unavailable for shadow/getedb etc.**

`RMDgf00307` — **looping problem in check_acl()**
QUIPU sometimes goes into a hard CPU loop in the routine check_acl(). This appears to be caused by a memory corruption problem, but the cause of the corruption is not known. IC R2.0 included several fixes for problems which could lead to memory corruption and this problem has not been reported since then.

Workaround: Restart QUIPU. Please also send a bug report with as much information as possible about what QUIPU was doing before the problem occurred. Please also let us know if you have a configuration in which you can reproduce the problem at will.

`RMDgf01154` — **quipu crash after SunNet X.25 7.0 connection problem**

`RMDgf00413` — **Search ACL and size limit does not work**
There is some incorrect interaction between Search ACLs, the `sizelimit` service control and the `searchalias` service control.

4.8 `IC.xapis` – X/API Association APIs

XDS

`RMDgf00928` — **XDS crashes if NULL password used for Bind**

Chapter 5

Other Notes and Problems

5.1 SNMP

The SNMP V1 implementation (in *apps/snmp*) is considered obsolete. Only one of *apps/snmp* and *apps/snmpV2* may be installed and run on a system.

The monitoring of MTAs using the RFC 1565 and RFC 1566 MIBs in *apps/snmpV2/proxy.osiappd* is incomplete at present. Monitoring of an MTA via SNMP must therefore be done using the SNMP V1 code.

5.2 Directory Services

5.2.1 QUIPU DSA

`RMDgf00510`**—QUIPU_MALLOC causes memory growth and crash.**

The custom version of `malloc()` which is used if you define `QUIPU_MALLOC` in *quipu/config.h* does not work, and may cause excessive memory growth and/or crashes.

Workaround: Do not define `QUIPU_MALLOC` in *quipu/config.h*.

5.3 Message Transfer Agent

5.3.1 Starting pptsapd

It has always been the case that *pptsapd* should be started as the PP user. The configuration requirements of the Message Store now make this essential.

5.3.2 X.400 Protocol Channels

The outbound 88 channel does not do downgrading of the message envelope (P1) in `mts-transfer-protocol-1984` mode. Downgrading is performed by the outbound 84 channel and therefore this should be used for `mts-transfer-protocol-1984` connections.

It is not possible to configure the outbound channels to make no attempts at Association or Activity recovery. This may impact interworking with MTAs which do not support recovery and which are incapable of correctly indicating this.