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**Source:** **SA5 (Telecom Management)**  
**Title:** **Rel-6 TS 32.343-200 File Transfer (FT) Integration Reference Point (IRP): CORBA Solution Set - for Approval**  
**Document for:** **Approval**  
**Agenda Item:** **7.5.3**

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**3GPP TSG-SA5 (Telecom Management)** **S5-046686**  
**Meeting #38bis, Sophia Antipolis, FRANCE, 28 Jun- 2 Jul 2004**

## **Presentation of Technical Specification to TSG SA**

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**Presentation to:** **TSG SA Meeting #25**  
**Document for presentation:** **TS 32.343, Version 2.0.0**  
**Presented for:** **Approval**

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**Abstract of document:**

This TS defines the CORBA solution set for the File Transfer IRP.

Work done against the WID contained in SP-020754 (Work Item ID: OAM-NIM).

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**Purpose of These Specifications:**

The purpose of this set of specifications is to provide a File Transfer mechanism enabling the network manager to list and exchange files containing management information with a management agent in managed systems for Release 6.

This CORBA solution set is intended for Release 6 and is part of the File Transfer IRP, which consists of:

3GPP TS 32.341: "Telecommunication management; File Transfer (FT) Integration Reference Point (IRP): Requirements".
3GPP TS 32.342: "Telecommunication management; File Transfer (FT) Integration Reference Point (IRP): Information Service (IS)".
<b>3GPP TS 32.343: "Telecommunication management; File Transfer (FT) Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS)".</b>
3GPP TS 32.344: "Telecommunication management; File Transfer (FT) Integration Reference Point (IRP): Common Management Information Protocol (CMIP) Solution Set (SS)".

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**Changes since last presentation to TSG-SA:** **N/A.**

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**Outstanding Issues:** **None.**

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**Contentious Issues:** **None.**

# 3GPP TS 32.343 V2.0.0 (2004-09)

*Technical Specification*

**3rd Generation Partnership Project;  
Technical Specification Group Services and System Aspects;  
Telecommunication management;  
File Transfer (FT) Integration Reference Point (IRP):  
Common Object Request Broker Architecture (CORBA)  
Solution Set (SS)  
(Release 6)**



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**Keywords**

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File Transfer, CORBA solution set**3GPP**

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## Foreword

This Technical Specification (TS) has been produced by the 3<sup>rd</sup> Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

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## Introduction

The present document is part a TS-family covering the 3<sup>rd</sup> Generation Partnership Project: Technical Specification Group Services and System Aspects; Telecommunication management; as identified below:

- TS 32.341: "File Transfer (FT) Integration Reference Point (IRP): Requirements".
- TS 32.342: "File Transfer (FT) Integration Reference Point (IRP): Information Service (IS)".
- TS 32.343: "File Transfer (FT) Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set".**
- TS 32.344: "File Transfer (FT) Integration Reference Point (IRP): Common Management Information Protocol (CMIP) Solution Set".

The present document is part of a set of TSs which describe the requirements and information model necessary for the Telecommunication Management (TM) of 3G systems. The TM principles and TM architecture are specified in 3GPP TS 32.101 [1] and 3GPP TS 32.102 [2].

Network Elements (NEs) under management, element managers as well as network managers generate various management information stored in file format. This IRP is addressing how these file are exchanged through Itf-N as well as certain aspects of file management and maintenance. It is anticipated that all management functions (e.g. PM, Call Trace, CM) as well as associated IRP's making reuse of capabilities provided by this File Transfer IRP.

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## 1 Scope

The present document specifies the Common Object Request Broker Architecture (CORBA) Solution Set (SS) for the IRP whose semantics is specified in File Transfer IRP: Information Service [7].

This Solution Set specification is related to 3GPP TS 32.342 (V6.0.X).

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## 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TS 32.101: "Telecommunication management; Principles and high level requirements".
- [2] 3GPP TS 32.102: "Telecommunication management; Architecture".
- [3] 3GPP TS 32.341: "Telecommunication management; File Transfer (FT) Integration Reference Point (IRP): Requirements".
- [4] 3GPP TS 32.311: "Telecommunication management; Generic Integration Reference Point (IRP) management: Requirements".
- [5] 3GPP TS 32.303: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS)".
- [6] 3GPP TS 32.300: "Telecommunication management; Configuration Management (CM); Name convention for Managed Objects".
- [7] 3GPP TS 32.342: "Telecommunication management; File Transfer (FT) Integration Reference Point (IRP): Information Service (IS)".
- [8] 3GPP TS 32.312: "Telecommunication management; Generic Integration Reference Point (IRP) management: Information Service (IS)".
- [9] OMG TC Document telecom/98-11-01: "OMG Notification Service".  
<http://www.omg.org/technology/documents/>

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## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TS 32.101 [1], 3GPP TS 32.102 [2], 3GPP TS 32.341 [3] and the following apply:

**IRP document version number string (or "IRPVersion"):** See 3GPP TS 32.311 [4].

## 3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

CM	Configuration Management
CORBA	Common Object Request Broker Architecture
DN	Distinguished Name
FT	File Transfer
IDL	Interface Definition Language
IS	Information Service
NE	Network Element
OMG	Object Management Group
PM	Performance Management
SS	Solution Set

---

## 4 Architectural features

The overall architectural feature of FileTransferIRP is specified in 3GPP TS 32.341 [3].

This clause specifies features that are specific to the CORBA SS.

### 4.1 Notifications

Notifications are sent according to the Notification IRP: CORBA SS (see 3GPP TS 32.303 [5]).

The contents of the FileTransferIRP notifications are defined in the present document.

### 4.2 Syntax for Distinguished Names and Versions

The format of a Distinguished Name is defined in 3GPP TS 32.300 [6].

The version of this IRP is represented as a string (see also clause 3 for versions).

---

## 5 Mapping

### 5.1 Operation and Notification mapping

FileTransferIRP: IS 3GPP TS 32.342 [7] defines semantics of operation and notification visible across the FileTransferIRP. Table 1 indicates mapping of these operations and notifications to their equivalents defined in this SS.

**Table 1: Mapping from IS Operations and Notification to SS equivalents**

<b>IS Operations/ notification 3GPP TS 32.342 [7]</b>	<b>SS Method</b>	<b>Qualifier</b>
listAvailableFiles	list_available_files	M
fileDownloadIndication	file_download_indication	O
getIRPVersion	get_FileTransfer_IRP_versions	M
getOperationProfile (see note)	get_FileTransfer_IRP_operations_profile	O
getNotificationProfile (see note)	get_FileTransfer_IRP_notifications_profile	O
notifyFileReady	push_structured_events (see subclause 6.1)	M
notifyFilePreparationError	push_structured_events (see subclause 6.1)	M
NOTE: This operation is of ManagedGenericIRP IOC specified in 3GPP TS 32.312 [8]. The FileTransferIRP IOC of 3GPP TS 32.342 [7] inherits from it.		

## 5.2 Operation parameter mapping

The FileTransferIRP: IS 3GPP TS 32.342 [7] defines semantics of parameters carried in operations across the FileTransferIRP. The following tables indicate the mapping of these parameters, as per operation, to their equivalents defined in this SS.

**Table 2: Mapping from IS listAvailableFiles parameters to SS equivalents**

<b>IS Operation parameter</b>	<b>SS Method parameter</b>	<b>Qualifier</b>
managementDataType	FileTransferIRPConstDefs::ManagementDataTypeType managementDataType	M
beginTime	FileTransferIRPConstDefs::BeginTimeType beginTime	M
endTime	FileTransferIRPConstDefs::EndTimeType endTime	M
fileInfoList	Return value of type FileTransferIRPConstDefs::FileInfoListType fileInfoList	M
status	FileTransferIRPConstDefs::ResultType Exception: ListAvailableFiles, InvalidTimes	M

**Table 3: Mapping from IS fileDownloadIndication parameters to SS equivalents**

<b>IS Operation parameter</b>	<b>SS Method parameter</b>	<b>Qualifier</b>
fileInfoList	FileTransferIRPConstDefs::FileInfoListType fileInfoList	M
status	FileTransferIRPConstDefs::ResultType Exception: FileDownloadIndication, InvalidFileInfoList	M

**Table 4: Mapping from IS getIRPVersion parameters to SS equivalents**

<b>IS Operation parameter</b>	<b>SS Method parameter</b>	<b>Qualifier</b>
versionNumberSet	Return value of type ManagedGenericIRPConstDefs::VersionNumberSet	M
status	Exception: GetFileTransferIRPVersions	M

**Table 5: Mapping from IS getOperationProfile parameters to SS equivalents**

<b>IS Operation parameter</b>	<b>SS Method parameter</b>	<b>Qualifier</b>
iRPVersion	ManagedGenericIRPConstDefs::VersionNumber iRPVersion	M
operationNameProfile, operationParameterProfile	Return of type ManagedGenericIRPConstDefs::MethodList	M
status	Exception: GetFileTransferIRPOperationsProfile, ManagedGenericIRPSystem::OperationNotSupported, ManagedGenericIRPSystem::InvalidParameter	M

**Table 6: Mapping from IS getNotificationProfile parameters to SS equivalents**

<b>IS Operation parameter</b>	<b>SS Method parameter</b>	<b>Qualifier</b>
iRPVersion	ManagedGenericIRPConstDefs::VersionNumber iRPVersion	M
notificationNameProfile,no tificationParameterProfile	Return value of type ManagedGenericIRPConstDefs::MethodList	M
status	Exception: GetFileTransferIRPNotificationsProfile, ManagedGenericIRPSysystem::OperationNotSupported, ManagedGenericIRPSysystem::InvalidParameter	M

## 5.3 Notification parameter mapping

The FileTransferIRP: IS 3GPP TS 32.342 [7] defines semantics of parameters carried in notifications. The following table indicates the mapping of these parameters to their OMG CORBA Structured Event (defined in OMG Notification Service [9]) equivalents. The composition of OMG Structured Event, as defined in the OMG Notification Service [9], is:

```

Header
  Fixed Header
    domain_name
    type_name
    event_name
  Variable Header
Body
  filterable_body_fields
  remaining_body

```

The following tables list all OMG Structured Event attributes in the second column. The first column identifies the FileTransferIRP: IS 3GPP TS 32.342 [7] defined notification parameters.

**Table 7: Mapping for notifyFileReady**

<b>IS Parameters</b>	<b>OMG CORBA Structured Event attribute</b>	<b>Qualifier</b>	<b>Comment</b>
There is no corresponding IS attribute.	domain_name	M	<p>It carries the IRP document version number string. See subclause 3.1.</p> <p>It indicates the syntax and semantics of the Structured Event as defined by the present document.</p>
notificationType	Type_name	M	This is the ET_FILE_READY of module of FileTransferIRPNotifDefs.
There is no corresponding IS attribute	event_name	M	It carries no information.
There is no corresponding IS attribute.	Variable Header		
objectClass, objectInstance	One NV pair of filterable_body_fields	M	<p>NV stands for name-value pair. Order arrangement of NV pairs is not significant. The name of NV-pair is always encoded in string.</p> <p>Name of this NV pair is the MANAGED_OBJECT_INSTANCE of interface AttributeNameValue of module NotificationIRPConstDefs.</p> <p>Value of NV pair is a string. See corresponding table in Notification IRP: CORBA SS (3GPP TS 32.303 [5]).</p>
notificationId	One NV pair of filterable_body_fields	M	<p>Name of NV pair is the NOTIFICATION_ID of interface AttributeNameValue of module NotificationIRPConstDefs.</p> <p>Value of NV pair is a long. See corresponding table in Notification IRP: CORBA SS (3GPP TS 32.303 [5]).</p>
eventTime	One NV pair of filterable_body_fields	M	<p>Name of NV pair is the EVENT_TIME of interface AttributeNameValue of module NotificationIRPConstDefs.</p> <p>Value of NV pair is IRPTime. See corresponding table in Notification IRP: CORBA SS (3GPP TS 32.303 [5]).</p>
systemDN	One NV pair of filterable_body_fields	M	<p>Name of NV pair is the SYSTEM_DN of interface AttributeNameValue of module NotificationIRPConstDefs.</p> <p>Value of NV pair is a string. See corresponding table in Notification IRP: CORBA SS (3GPP TS 32.303 [5]).</p>
fileInfoList	One NV pair of filterable_body_fields	M	<p>Name of NV pair is the FILE_INFO_LIST of module FileTransferIRPNotifDefs::notifyFileReady.</p> <p>Value of NV pair is FileInfoListType of module FileTransferIRPConstDefs.</p>
additionalText	One NV pair of filterable_body_fields	O	<p>Name of NV pair is the ADDITIONAL_TEXT of module FileTransferIRPNotifDefs::notifyFileReady.</p> <p>Value of NV pair is a string.</p>
There is no corresponding IS attribute.	remaining_body		

**Table 8: Mapping for notifyFilePreparationError**

IS Parameters	OMG CORBA Structured Event attribute	Qualifier	Comment
There is no corresponding IS attribute.	domain_name	M	<p>It carries the IRP document version number string. See subclause 3.1.</p> <p>It indicates the syntax and semantics of the Structured Event as defined by the present document.</p>
notificationType	Type_name	M	This is the ET_FILE_PREPARATION_ERROR of module of FileTransferIRPNotifDefs.
There is no corresponding IS attribute	event_name	M	It carries no information.
There is no corresponding IS attribute.	Variable Header		
objectClass, objectInstance	One NV pair of filterable_body_fields	M	<p>NV stands for name-value pair. Order arrangement of NV pairs is not significant. The name of NV-pair is always encoded in string.</p> <p>Name of this NV pair is the MANAGED_OBJECT_INSTANCE of interface AttributeNameValue of module NotificationIRPConstDefs.</p> <p>Value of NV pair is a string. See corresponding table in Notification IRP: CORBA SS (3GPP TS 32.303 [5]).</p>
notificationId	One NV pair of filterable_body_fields	M	<p>Name of NV pair is the NOTIFICATION_ID of interface AttributeNameValue of module NotificationIRPConstDefs.</p> <p>Value of NV pair is a long. See corresponding table in Notification IRP: CORBA SS (3GPP TS 32.303 [5]).</p>
eventTime	One NV pair of filterable_body_fields	M	<p>Name of NV pair is the EVENT_TIME of interface AttributeNameValue of module NotificationIRPConstDefs.</p> <p>Value of NV pair is IRPTime. See corresponding table in Notification IRP: CORBA SS (3GPP TS 32.303 [5]).</p>
systemDN	One NV pair of filterable_body_fields	M	<p>Name of NV pair is the SYSTEM_DN of interface AttributeNameValue of module NotificationIRPConstDefs.</p> <p>Value of NV pair is a string. See corresponding table in Notification IRP: CORBA SS (3GPP TS 32.303 [5]).</p>
fileInfoList	One NV pair of filterable_body_fields	M	<p>Name of NV pair is the FILE_INFO_LIST of module FileTransferIRPNotifDefs::notifyFilePreparationError .</p> <p>Value of NV pair is FileInfoListType of module FileTransferIRPConstDefs.</p>
reason	One NV pair of filterable_body_fields	M	<p>Name of NV pair is the REASON of module FileTransferIRPNotifDefs::notifyFilePreparationError .</p> <p>Value of NV pair is a string.</p>
additionalText	One NV pair of filterable_body_fields	O	<p>Name of NV pair is the ADDITIONAL_TEXT of module FileTransferIRPNotifDefs:: notifyFilePreparationError .</p> <p>Value of NV pair is a string.</p>
There is no corresponding IS attribute.	remaining_body		

---

## 6 FileTransferIRP Notification Interface

OMG CORBA Notification push operation is used to realise the notification of `FileTransferIRP` Notifications. All the notifications in this interface are implemented using this `push_structured_event` method.

### 6.1 Method `push` (M)

```
module CosNotifyComm {  
    ...  
    Interface SequencePushConsumer : NotifyPublish {  
        void push_structured_events(  
            in CosNotification::EventBatch notifications)  
        raises( CosEventComm::Disconnected);  
    }; // SequencePushConsumer  
    ...  
}; // CosNotifyComm
```

NOTE 1: The `push_structured_events` method takes an input parameter of type `EventBatch` as defined in the OMG `CosNotification` module (OMG Notification Service [9]). This data type is the same as a sequence of Structured Events. Upon invocation, this parameter will contain a sequence of Structured Events being delivered to IRPManager by IRPAgent to which it is connected.

NOTE 2: The maximum number of events that will be transmitted within a single invocation of this operation is controlled by IRPAgent wide configuration parameter.

NOTE 3: The amount of time the supplier (IRPAgent) of a sequence of Structured Events will accumulate individual events into the sequence before invoking this operation is controlled by IRPAgent wide configuration parameter as well.

NOTE 4: IRPAgent may push `EventBatch` with only one Structured Event.

---

## Annex A (normative): IDL specifications

### A.1 IDL specification (file name "FileTransferIRPConstDefs.idl")

```
#ifndef FileTransferIRPConstDefs_idl
#define FileTransferIRPConstDefs_idl

#include "TimeBase.idl"

// This statement must appear after all include statements
#pragma prefix "3gppsa5.org"

/* ## Module: FileTransferIRPConstDefs
This module contains commonly used definitions for FileTransferIRP.
=====
*/
module FileTransferIRPConstDefs
{
    enum ResultType {OK, Failure};

    typedef TimeBase::UtcT UTCTimeType;
    typedef UTCTimeType BeginTimeType;
    typedef UTCTimeType EndTimeType;

    enum LocationChoice {Directory, URL};

    //The FileLocationType may be a directory path or a URL
    union FileLocationType switch (LocationChoice)
    {
        case Directory: string fileLocationD;
        /* e.g. \\202.112.101.1\D:\user\performanceFiles\<fileName> */
        case URL: string fileLocationU;
        /* e.g. ftp://nms.telecom_org.com/datastore/<fileName> */
    };

    typedef unsigned long FileSizeType; //the unit is byte
    typedef string FileCompressionType;
    typedef string FileFormatType;

    struct FileInfoType
    {
        FileLocationType fileLocation;
        FileSizeType fileSize;
        UTCTimeType fileReadyTime;
        UTCTimeType fileExpirationTime;
        FileCompressionType fileCompression;
        FileFormatType fileFormat;
    };

    typedef sequence<FileInfoType> FileInfoListType;

    enum ManagementDataTypeType {PM, CM, IM, TE, CT, NL, CG, OT};

    /*
    Define the parameters specified in the notifyFileReady
    and notifyFilePreparationError notification.
    */
    interface AttributeNameValue
    {
        const string FILE_INFO_LIST = "FILE_INFO_LIST";
        const string ADDITIONAL_TEXT = "ADDITIONAL_TEXT";
        const string REASON = "REASON";
    };
}
```

```
#endif
```

## A.2 IDL specification (file name "FileTransferIRPSystem.idl")

```
#ifndef FileTransferIRPSystem_idl
#define FileTransferIRPSystem_idl

#include "ManagedGenericIRPConstDefs.idl"
#include "ManagedGenericIRPSystem.idl"
#include "FileTransferIRPConstDefs.idl"

// This statement must appear after all include statements
#pragma prefix "3gppsa5.org"

/* ## Module: FileTransferIRPSystem
This module implements capabilities of FileTransferIRP.
=====
*/
module FileTransferIRPSystem
{

    exception InvalidTimes { string reason; };
    exception InvalidFileInfoList { string reason; };

    /*
     System fails to complete the operation. System can provide reason
     to qualify the exception. The semantics carried in reason
     is outside the scope of this IRP.
    */
    exception ListAvailableFiles { string reason; };
    exception FileDownloadIndication { string reason; };
    exception GetFileTransferIRPVersions { string reason; };
    exception GetFileTransferIRPOperationsProfile { string reason; };
    exception GetFileTransferIRPNotificationsProfile { string reason; };

    /*
    */
    interface FileTransferIRP
    {
        /*
         * IRPManager invoke this operation to get the files information
        */
        FileTransferIRPConstDefs::ResultType list_available_files(
            in FileTransferIRPConstDefs::ManagementDataType managementDataType,
            in FileTransferIRPConstDefs::BeginTimeType beginTime,
            in FileTransferIRPConstDefs::EndTimeType endTime,
            out FileTransferIRPConstDefs::FileInfoListType fileInfoList
        )
        raises (ListAvailableFiles,InvalidTimes);

        /*
         * IRPManager invoke this operation to indicate completion of downloading files to IRPAgent
        */
        FileTransferIRPConstDefs::ResultType file_download_indication(
            in FileTransferIRPConstDefs::FileInfoListType fileInfoList
        )
        raises (FileDownloadIndication,InvalidFileInfoList);

        /**
         * Return the list of all supported FileTransferIRP versions.
        */
        ManagedGenericIRPConstDefs::VersionNumberSet get_FileTransfer_IRP_versions (
        )
        raises (GetFileTransferIRPVersions);

        /**
         * Return the list of all supported operations and their supported
        */
    }
}
```

```

    * parameters for a specific FileTransferIRP version.
 */
ManagedGenericIRPConstDefs::MethodList get_FileTransfer_IRP_operations_profile (
    in ManagedGenericIRPConstDefs::VersionNumber iRPVersion
)
raises (GetFileTransferIRPOperationsProfile,
        ManagedGenericIRPSysystem::OperationNotSupported,
        ManagedGenericIRPSysystem::InvalidParameter);

/**
 * Return the list of all supported notifications and their supported
 * parameters for a specific FileTransferIRP version.
 */
ManagedGenericIRPConstDefs::MethodList get_FileTransfer_IRP_notifications_profile
(
    in ManagedGenericIRPConstDefs::VersionNumber iRPVersion
)
raises (GetFileTransferIRPNotificationsProfile,
        ManagedGenericIRPSysystem::OperationNotSupported,
        ManagedGenericIRPSysystem::InvalidParameter);
};

};

#endif

```

---

## A.3 IDL specification (file name "FileTransferIRPNotifDefs.idl")

```

#ifndef FileTransferIRPNotifDefs_idl
#define FileTransferIRPNotifDefs_idl

#include "FileTransferIRPConstDefs.idl"
#include "NotificationIRPConstDefs.idl"

// This statement must appear after all include statements
#pragma prefix "3gppsa5.org"

/* ## Module: FileTransferIRPNotifDefs
This module contains the specification of all notifications of FileTransfer IRP Agent.
=====
*/
module FileTransferIRPNotifDefs
{

    const string ET_FILE_READY = "notifyFileReady";
    const string ET_FILE_PREPARATION_ERROR = "notifyFilePreparationError";

    /**
     * Constant definitions for the FileReady notification
    */
    interface notifyFileReady: NotificationIRPConstDefs::AttributeNameValue
    {
        const string EVENT_TYPE = ET_FILE_READY;

        /**
         * This constant defines the name of the fileInfoList property,
         * which is transported in the filterable_body fields.
         * The data type for the value of this property is
         * FileTransferIRPConstDefs::FileInfoListType.
        */
        const string FILE_INFO_LIST = FileTransferIRPConstDefs::AttributeNameValue::FILE_INFO_LIST;

        /**
         * This constant defines the name of the additionalText property,
         * which is transported in the filterable_body fields.
         * The data type for the value of this property is string.
        */
        const string ADDITIONAL_TEXT = FileTransferIRPConstDefs::AttributeNameValue::ADDITIONAL_TEXT;

```

```
};

/***
* Constant definitions for the FilePreparationError notification
*/
interface notifyFilePreparationError: NotificationIRPConstDefs::AttributeNameValue
{
    const string EVENT_TYPE = ET_FILE_PREPARATION_ERROR;

    /**
     * This constant defines the name of the fileInfoList property,
     * which is transported in the filterable_body fields.
     * The data type for the value of this property is
     * FileTransferIRPConstDefs::FileInfoListType.
     */
    const string FILE_INFO_LIST = FileTransferIRPConstDefs::AttributeNameValue::FILE_INFO_LIST;

    /**
     * This constant defines the name of the reason property,
     * which is transported in the filterable_body fields.
     * The data type for the value of this property is string.
     */
    const string REASON = FileTransferIRPConstDefs::AttributeNameValue::REASON;

    /**
     * This constant defines the name of the additionalText property,
     * which is transported in the filterable_body fields.
     * The data type for the value of this property is string.
     */
    const string ADDITIONAL_TEXT = FileTransferIRPConstDefs::AttributeNameValue::ADDITIONAL_TEXT;
};

#endif
```

---

## Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Mar 2004	S_23	SP-040127	--	--	Submitted to TSG SA#23 for Information	1.0.0	
Sep 2004	S_25	SP-040563	--	--	Submitted to TSG SA#25 for Approval	2.0.0	