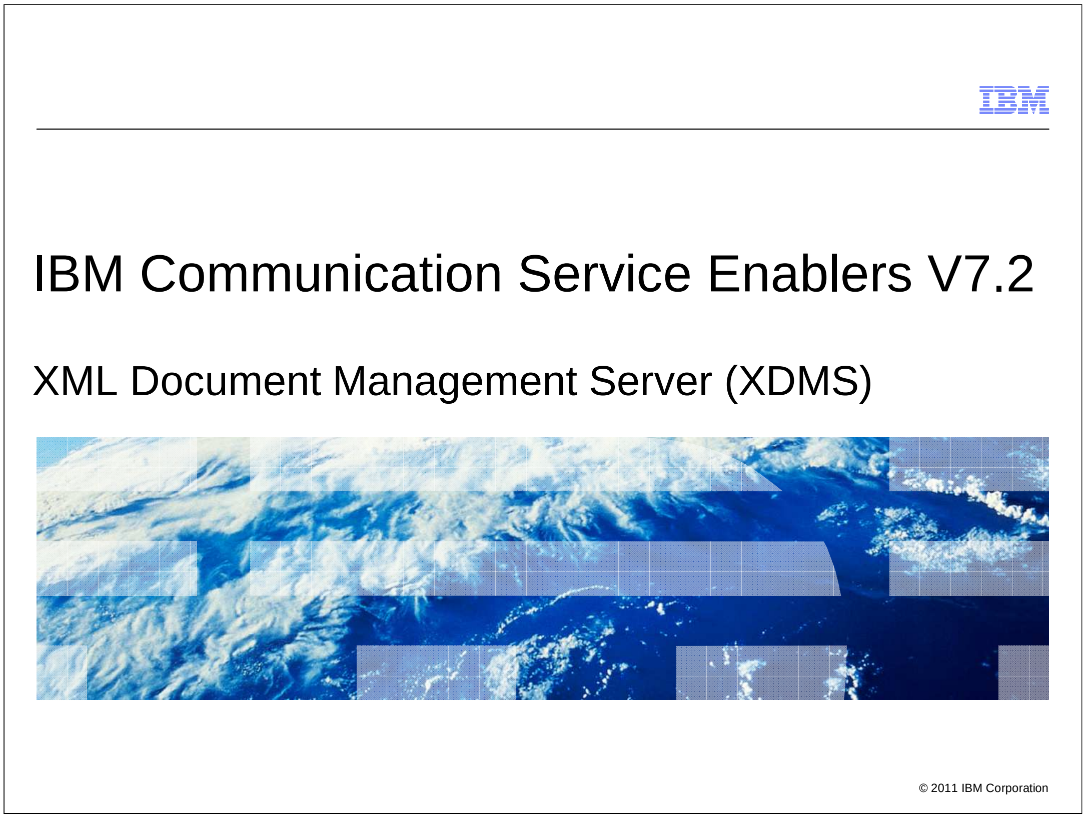

IBM Communication Service Enablers V7.2

XML Document Management Server (XDMS)

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This presentation deals with the overview and the features associated with XML Document Management Server (XDMS) version 7.2.

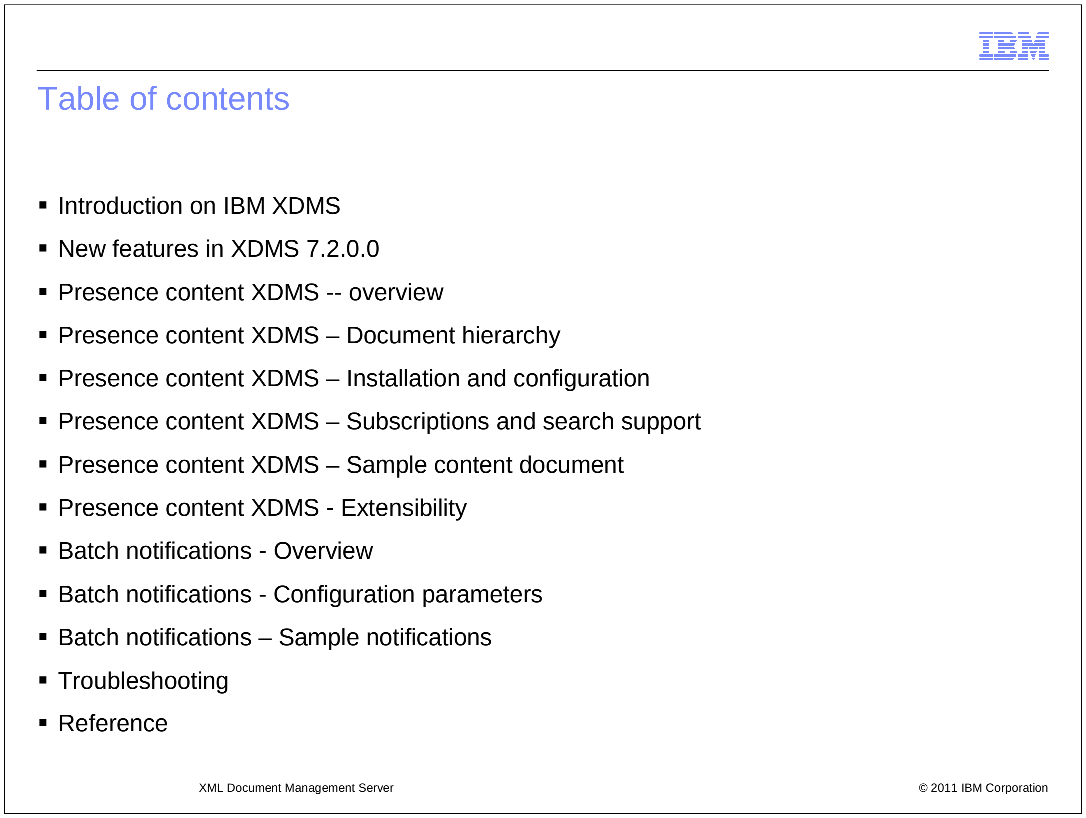

Table of contents

- Introduction on IBM XDMS
- New features in XDMS 7.2.0.0
- Presence content XDMS -- overview
- Presence content XDMS – Document hierarchy
- Presence content XDMS – Installation and configuration
- Presence content XDMS – Subscriptions and search support
- Presence content XDMS – Sample content document
- Presence content XDMS - Extensibility
- Batch notifications - Overview
- Batch notifications - Configuration parameters
- Batch notifications – Sample notifications
- Troubleshooting
- Reference

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The agenda includes:

- Introduction to IBM XDMS

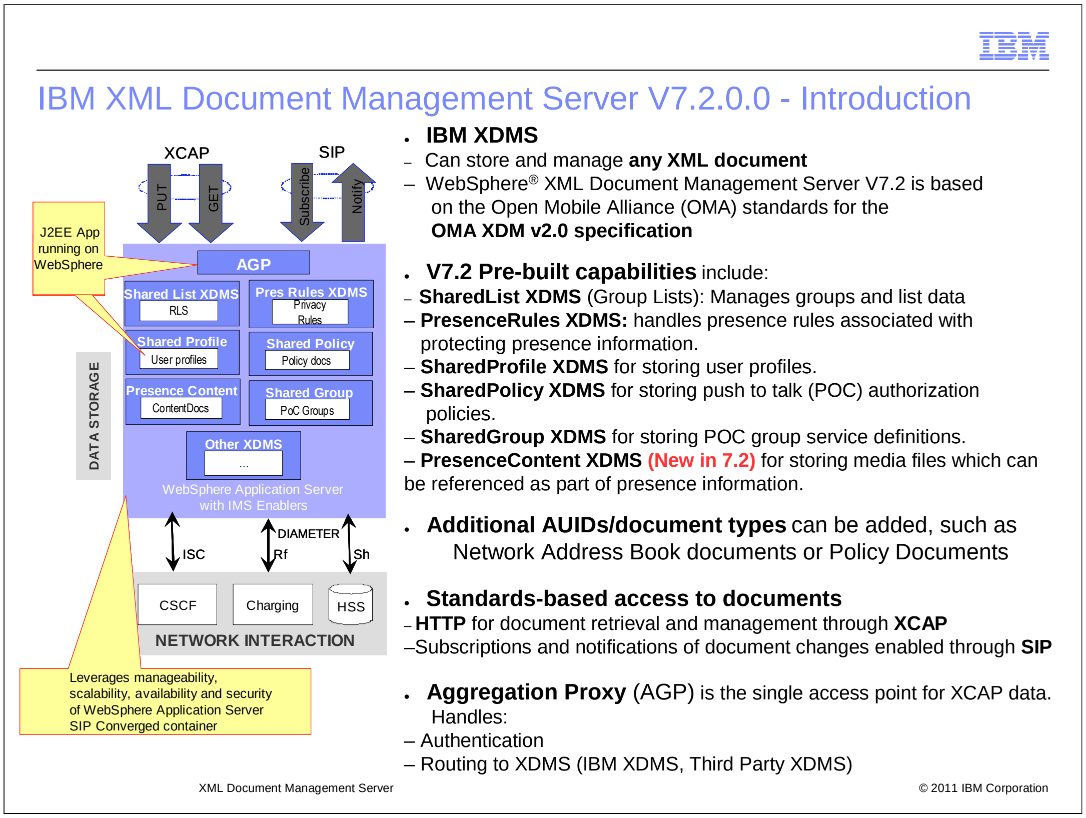
- New features in XDMS 7.2.0.0

- Details on Presence Content XDMS include – Overview, Document Hierarchy, Installation and Configuration, Subscriptions and Search support, Sample content document, and Extensibility

- Details on Batch Notifications include – Overview, Configuration parameters, and Sample notifications

- Troubleshooting

- Reference



IBM XML Document Management Server V7.2.0.0 - Introduction

- **IBM XDMS**
  - Can store and manage **any XML document**
  - WebSphere® XML Document Management Server V7.2 is based on the Open Mobile Alliance (OMA) standards for the **OMA XDM v2.0 specification**
- **V7.2 Pre-built capabilities** include:
  - **SharedList XDMS** (Group Lists): Manages groups and list data
  - **PresenceRules XDMS:** handles presence rules associated with protecting presence information.
  - **SharedProfile XDMS** for storing user profiles.
  - **SharedPolicy XDMS** for storing push to talk (POC) authorization policies.
  - **SharedGroup XDMS** for storing POC group service definitions.
  - **PresenceContent XDMS (New in 7.2)** for storing media files which can be referenced as part of presence information.
- **Additional AUIDs/document types** can be added, such as Network Address Book documents or Policy Documents
- **Standards-based access to documents**
  - **HTTP** for document retrieval and management through **XCAP**
  - Subscriptions and notifications of document changes enabled through **SIP**
- **Aggregation Proxy** (AGP) is the single access point for XCAP data. Handles:
  - Authentication
  - Routing to XDMS (IBM XDMS, Third Party XDMS)

XML Document Management Server

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XDMS is based on IETF and OMA standards and can store and manage any XML document. XDMS supports subscription to the change notification and search operation on XML data.

XDMS is mainly a framework to develop XDM server and provides all the libraries to create enablers. Along with the framework, XDMS provides pre-built capabilities:

Shared list XDMS

Presence Rules XDMS

Shared Profile XDMS

Shared Policy XDMS

Shared Group XDMS

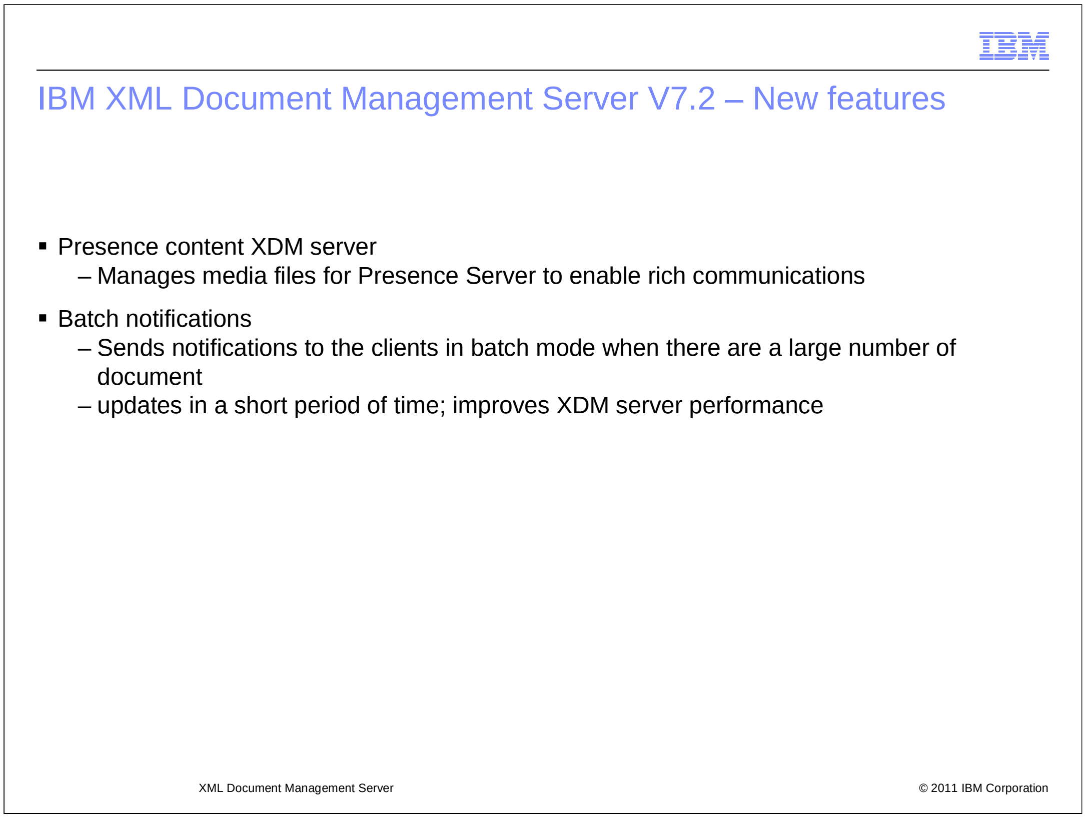
Presence Content XDMS, which is new in XDMS V7.2

These are standard enablers defined in the OMA specification.

XDMS mainly uses two protocols – XCAP and SIP.

XDMS treats each XML document, XML element, and XML attributes as individual resources and each of them are represented with a unique URI. So XCAP is used for document management. HTTP is not an active client, and so notification cannot be provided over the HTTP session. This is why SIP protocol is used for subscription and notification.

XDMS also provides aggregation proxy This is not an XDMS server, but it is a proxy, which is a common entry point for all the XDMS servers installed on the client side.



IBM XML Document Management Server V7.2 – New features

- Presence content XDM server
  - Manages media files for Presence Server to enable rich communications
- Batch notifications
  - Sends notifications to the clients in batch mode when there are a large number of document
  - updates in a short period of time; improves XDM server performance

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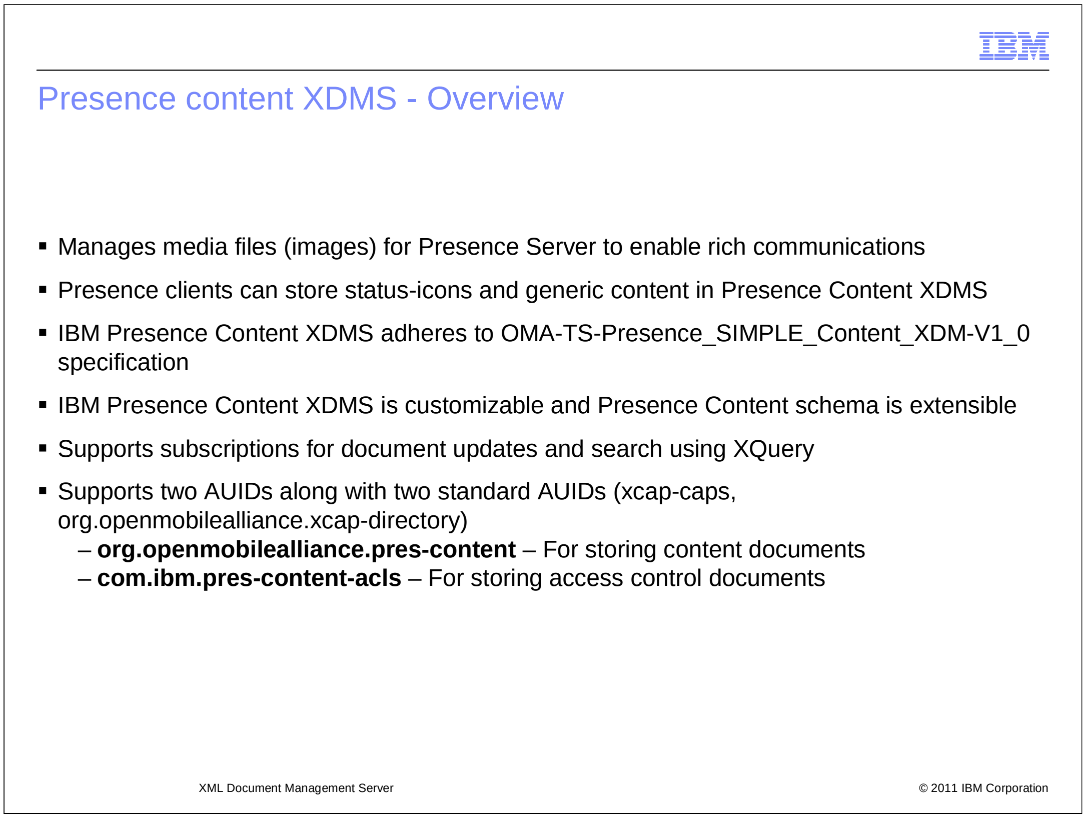
Two new features have been added to XDMS 7.2.

- Presence content XDM server: a new server to manage media files for Presence Server to enable rich communication.

- Batch notification: an enhanced feature for all existing enablers and for new enablers. Instead of sending individual notifications for each modification during frequent updates to the document, this feature collects multiple updates done in a short period of time and sends these notifications to the client as a batch. Thus, it improves the performance of the XDM server.



Presence content XDMS - Overview

- Manages media files (images) for Presence Server to enable rich communications
- Presence clients can store status-icons and generic content in Presence Content XDMS
- IBM Presence Content XDMS adheres to OMA-TS-Presence_SIMPLE_Content_XDM-V1_0 specification
- IBM Presence Content XDMS is customizable and Presence Content schema is extensible
- Supports subscriptions for document updates and search using XQuery
- Supports two AUIDs along with two standard AUIDs (xcap-caps, org.openmobilealliance.xcap-directory)
  - **org.openmobilealliance.pres-content** – For storing content documents
  - **com.ibm.pres-content-acls** – For storing access control documents

XML Document Management Server

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Presence Content XDMS stores XML files, which are mainly used to manage media files for Presence Server. Media files are defined as per specification and do not include any other audio or video file, but it is open for extension.

Presence client can store status icons and generic content in Presence Content XDMS. According to the specification, it gives more specific detail from the status icon and all other things are treated as generic content.

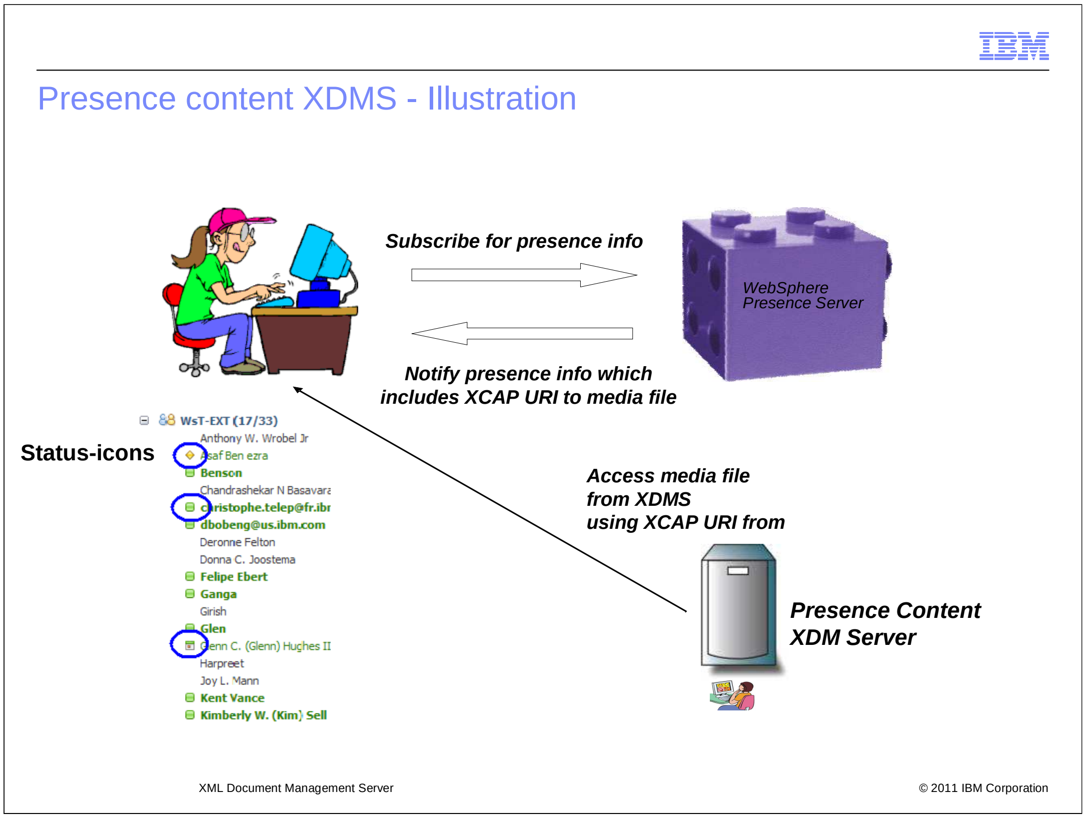
Presence Content XDMS adheres to OMA-TS_Presence_Simple_Content_XDM-V1_0 specification is customizable, and presence content schema is extensible. This means Presence Content XDMS is defined for images and it can be extensible based on your requirement.

It also supports subscriptions for document updates and search using XQuery.

Presence Content XDMS supports two AUIDs :

•org.openmobileallaince.pres-content : used for storing content document

•com.ibm.pres-content-acls : used for storing authorization document, also called access control document



Presence content XDMS - Illustration

Subscribe for presence info

Notify presence info which includes XCAP URI to media file

WebSphere Presence Server

Access media file from XDMS using XCAP URI from

Presence Content XDM Server

Status-icons

⊟ WsT-EXT (17/33)

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◆ Asaf Ben ezra
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🟩 **Felipe Ebert**
🟩 **Ganga**
Girish
🟩 **Glen**
▣ Glenn C. (Glenn) Hughes II
Harpreet
Joy L. Mann
🟩 **Kent Vance**
🟩 **Kimberly W. (Kim) Sell**

XML Document Management Server

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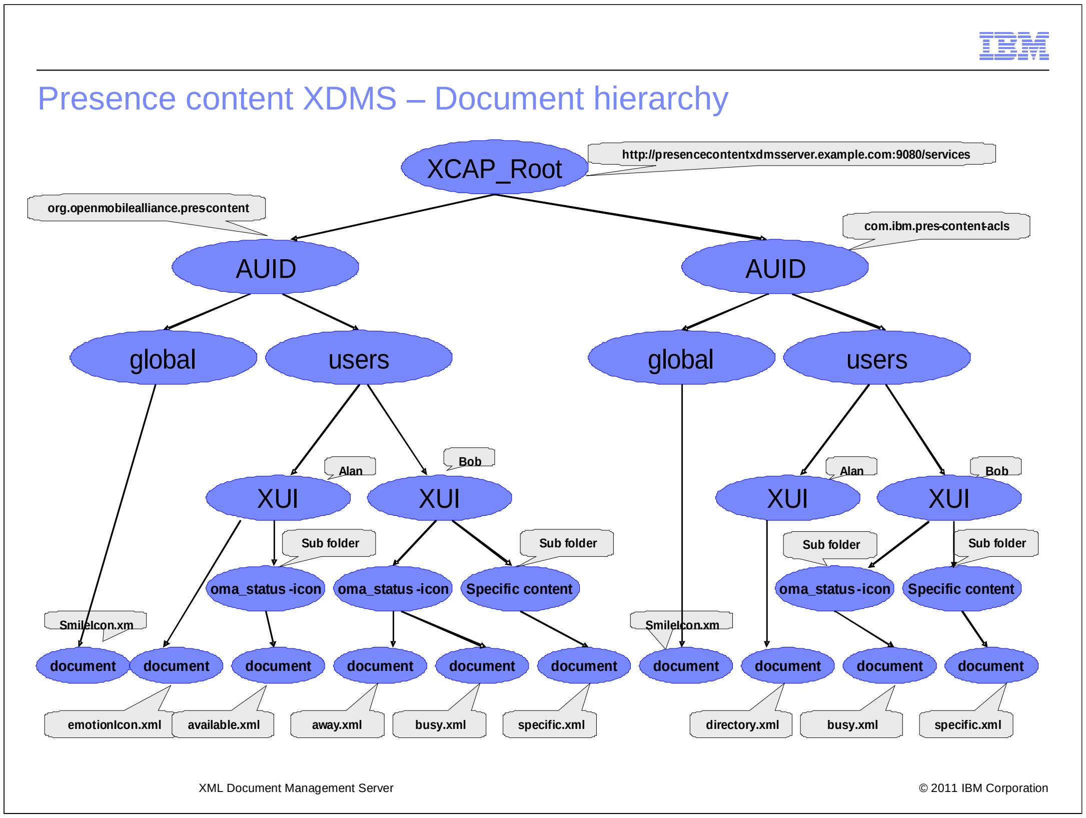
This slide illustrates the flow between Presence Content XDMS and Presence Server.

Take the case of an IM client or presence client, who can subscribe for presence information from Presence Server. Presence Server stores the presence information of a presentity and does not store any binary content. However, it can give XCAP-URI of the image file back to the presence client. Instead of giving content, it gives static XCAP-URI that represents the media or image file stored on the Presence Content XDM Server. Presence client extracts XCAP-URI from the presence information and sends a request to the Presence Content XDMS to get the actual image file.

A few status icon examples are also given, such as available, un-available, away, and busy icons. These type of icons are stored in content XDMS. Generic content can also be stored, for example - emotional icon or any other image you are interested in sharing with others.



Presence content XDMS – Document hierarchy

XCAP_Root
http://presencecontentxdmsserver.example.com:9080/services
org.openmobilealliance.prescontent
AUID
com.ibm.pres-content-acls
AUID
global
users
global
users
Alan
XUI
Bob
XUI
Alan
XUI
Bob
XUI
Sub folder
Sub folder
Sub folder
Sub folder
oma_status -icon
oma_status -icon
Specific content
oma_status-icon
Specific content
SmileIcon.xm
SmileIcon.xm
document
document
document
document
document
document
document
document
document
document
emotionIcon.xml
available.xml
away.xml
busy.xml
specific.xml
directory.xml
busy.xml
specific.xml

XML Document Management Server

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This slide shows the structure of the content stored under Presence Content XDMS and the hierarchy of each document. The specification mainly talks about the status icon and considers the rest as generic content. As per the specification, it starts with XCAP_Root and is followed by AUIDs (application unique identity descriptor).

Two AUIDs are supported - org.openmobileallaince.pres-content and com.ibm.pres-content-acls. And there are two branches under each AUID - global and users. According to the specification, there is no concept of global document. But if required, global documents can be stored.

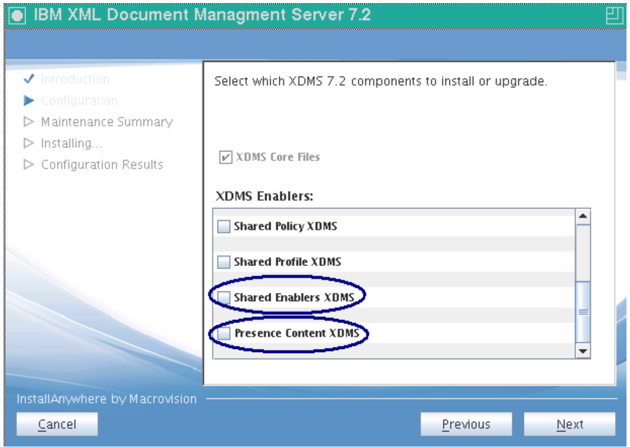
Under “users” comes the XUI, which is the home directory for user identity. The document is stored directly under this home directory. The name of the document does not help to distinguish between generic content or a status icon. So sub-folders with specific names are created to distinguish between the images.

For a status icon, create a sub-folder named “oma_status-icon” under XUI and store the status icon document in the sub-folder.

The ACLs documents are also stored similarly. They are used for getting the authorization rule whenever the requester is other than the primary principal requester for a content in Presence Content XDMS.

Presence content XDMS – Installation and configuration (1 of 4)

- Is an enterprise application delivered as two Enterprise Archive (ear) files
  - IBMPresenceContentXdms.ear
  - IBMSharedXdms.ear
- Can be installed using Interactive installer and silent installation



Select which XDMS 7.2 components to install or upgrade.

☑ XDMS Core Files

XDMS Enablers:

☐ Shared Policy XDMS

☐ Shared Profile XDMS

☐ Shared Enablers XDMS

☐ Presence Content XDMS

XML Document Management Server

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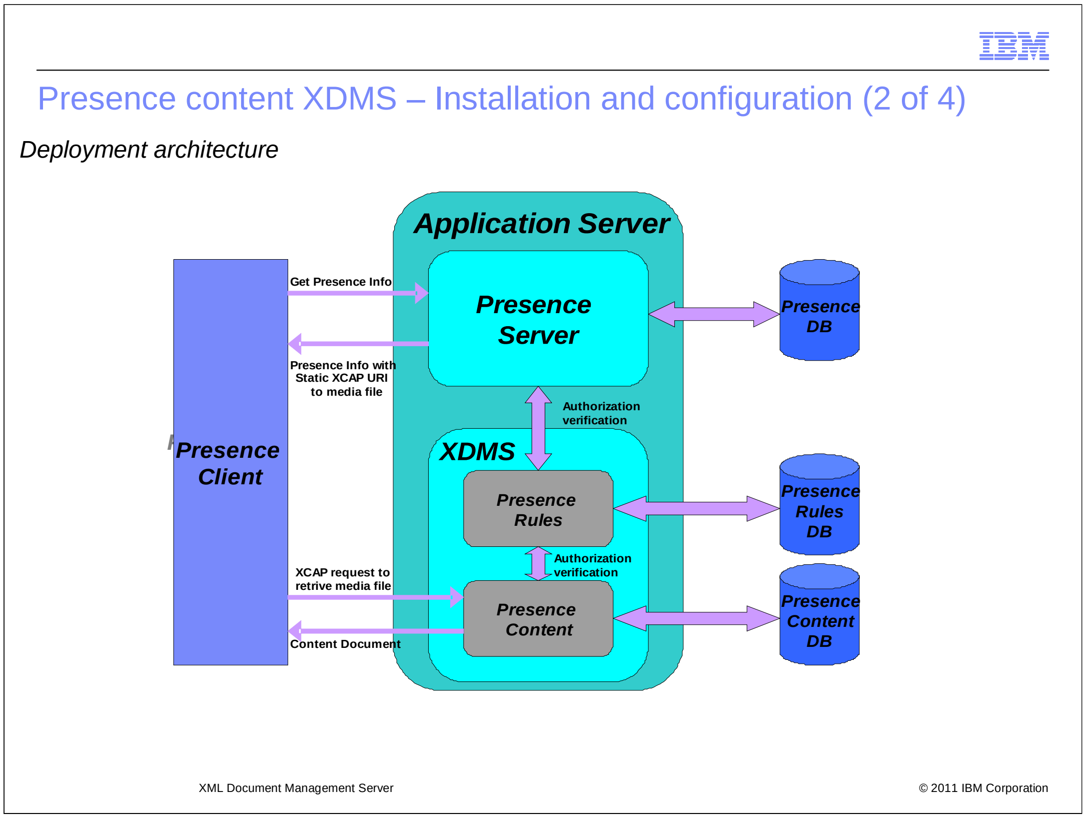
Presence Content XDMS is an enterprise application and is delivered as two ear files:

- IBMPresenceContentXDMS.ear file - exclusively supports only two AUIDs - org.openmobileallaince.pres-content and com.ibm.pres-content-acls

- IBMSharedXDMS.ear file - is the aggregation of all AUIDs supported in different enablers and everything is supported in a single ear file. So presence content is also part of it.

Content XDMS can be installed using an interactive installer or a silent installer. While running the setup file for interactive installer, Presence Content XDMS and Shared Enabler XDMS are listed. Use any of these to install Presence Content XDMS.



Presence content XDMS – Installation and configuration (2 of 4)

Deployment architecture

XML Document Management Server

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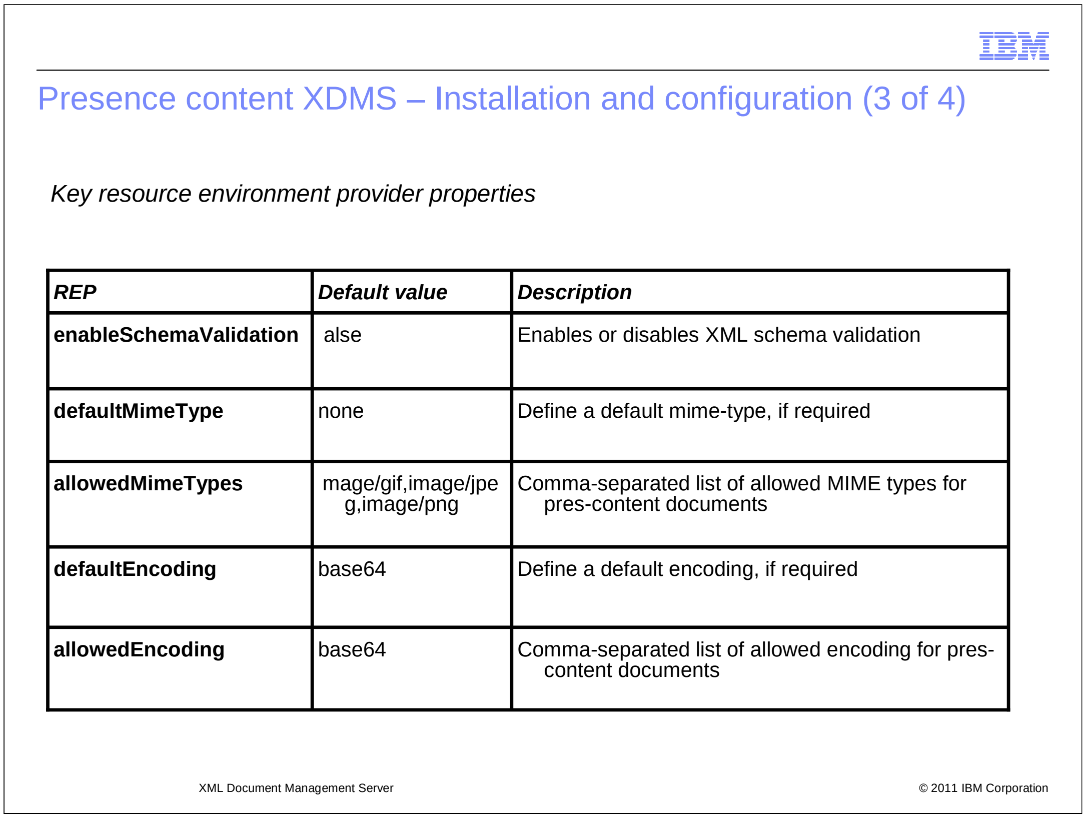
This slide gives the deployment architecture high-level diagram. Both Presence Server and XDMS can be deployed on the application server. As shown in the diagram, presence client sends the request to Presence Server. Presence Server gives the presence information along with the XCAP static URI to the presence client.

Presence client now invokes HTTP request to XDMS to get the media file from Presence Content XDMS. Presence Server contacts Presence Rule XDMS to get authorization information and similarly Presence Content XDMS listens to Presence Rule XDMS to verify authorization. This is exclusively for status icon. For generic content, it looks into the policy document.

Along with the .ear file, database script files are also provided for both DB2® and Oracle to create tables required to store Content XDMS. Further configuration is required, as described in the next slide.



Presence content XDMS – Installation and configuration (3 of 4)

Key resource environment provider properties

REP	***Default value***	***Description***
enableSchemaValidation	alse	Enables or disables XML schema validation
defaultMimeType	none	Define a default mime-type, if required
allowedMimeTypes	mage/gif,image/jpeg,image/png	Comma-separated list of allowed MIME types for pres-content documents
defaultEncoding	base64	Define a default encoding, if required
allowedEncoding	base64	Comma-separated list of allowed encoding for pres-content documents

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In this slide, resource environment providers (REPs) specific to presence content are listed. All the REP properties are not listed because most of them are common to all enablers.

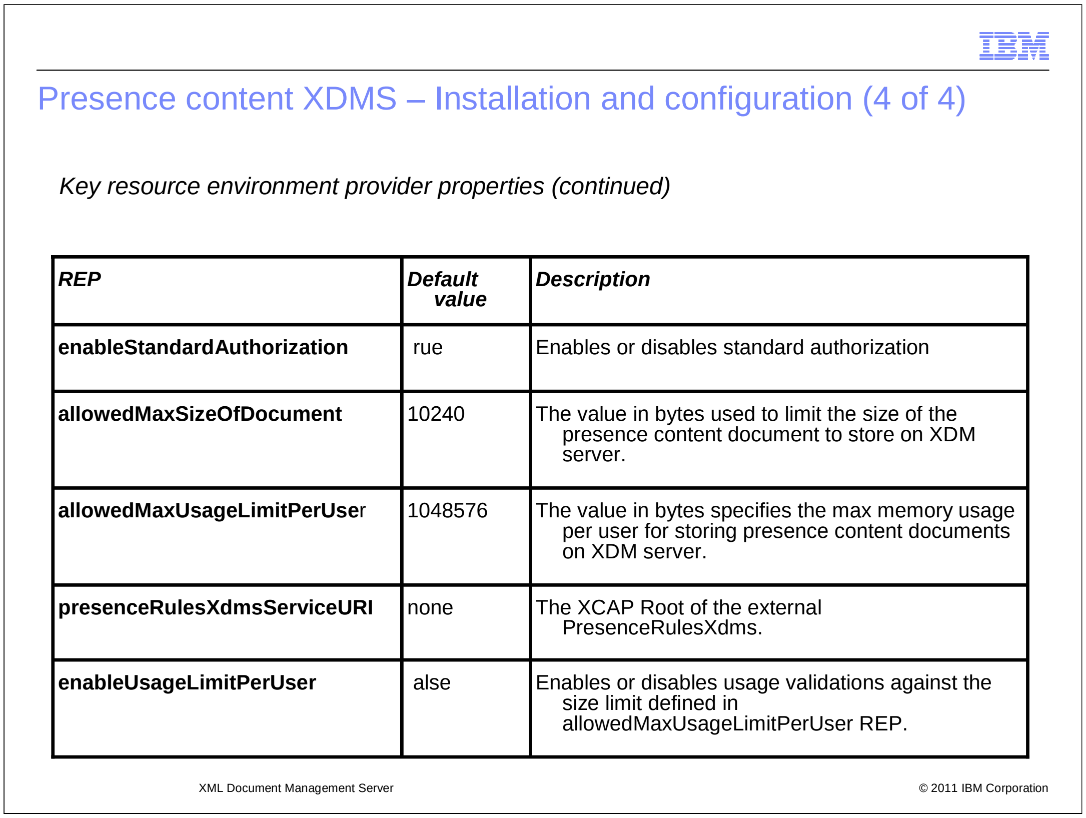
- enable schema validation - is used to enable or disable XML schema validation; default value is “false”.

- default Mime type – is used in the binary image file to identify the type of image; default value is “none”. If the binary file does not contain the Mime type, then the value defined in this REP property is added to binary file before storing it in content XDMS.

- allowed Mime types – is used to verify if the MIME type of the binary file is acceptable. If the value in the binary file does not match these REP values, then the request is rejected with conflict exception 409.

- default encoding - If the encoding element is missing in the request, then the value defined can be added in the default encoding REP property. Default value of this REP property is “base64”.

- allowed encoding - If the request comes with specific encoding, then that value is verified against the allowed encoding REP property and if it does not match, then the request is rejected with conflict exception 409.



Presence content XDMS – Installation and configuration (4 of 4)

Key resource environment provider properties (continued)

REP	***Default value***	***Description***
enableStandardAuthorization	rue	Enables or disables standard authorization
allowedMaxSizeOfDocument	10240	The value in bytes used to limit the size of the presence content document to store on XDM server.
allowedMaxUsageLimitPerUser	1048576	The value in bytes specifies the max memory usage per user for storing presence content documents on XDM server.
presenceRulesXdmsServiceURI	none	The XCAP Root of the external PresenceRulesXdms.
enableUsageLimitPerUser	alse	Enables or disables usage validations against the size limit defined in allowedMaxUsageLimitPerUser REP.

XML Document Management Server

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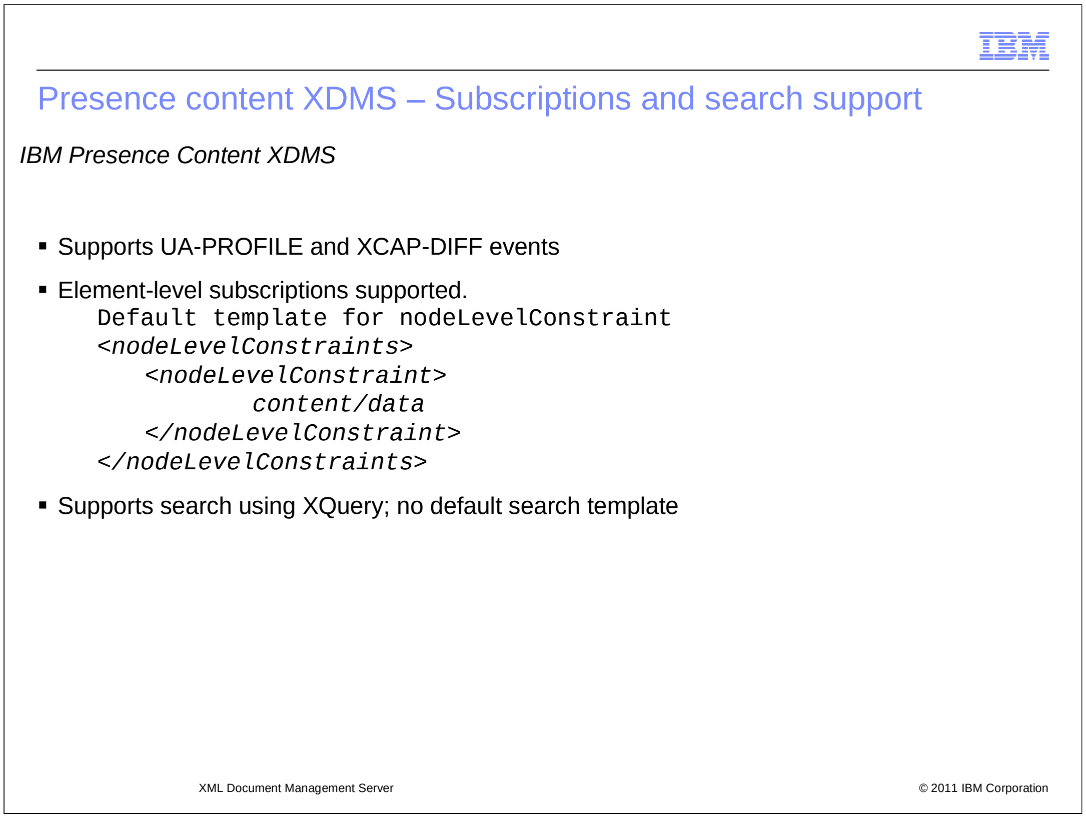
- enable standard authorization – is a part of authorization and is common across all the enablers. Default value is “true”.

- allowed max size of document – is used by the administrator to restrict the size of the document stored under the home directory. Default value is 10 kilo bytes. It is configurable, and the request is rejected if the incoming request exceeds the limit.

- allowed max usage limit per user – is used to restrict the usage limit per user. There is no limit on the number of documents you can store. But the total usage should be within the values specified here. Default value is approximately 1 MB, and it is a configurable value. While processing a request, XDMS checks your the current usage. And if the usage does not exceed the specified value, XDMS stores the document, otherwise the document is rejected.

- presence rules XDMS service URI - gives presence rule XDMS service URI; for status icon, XDMS first looks into this REP property, and if no value is defined, then it looks for XCAP root under ibm-xdms property.

- enable usage limit per user – is used to remove the usage restriction specified in the “allowed maximum usage limit per user” REP. The “allowed maximum usage limit per user” REP takes a lot of time to gather the details of all the documents stored under a particular user to get the size of the document. If the administrator does not want to restrict the usage, this REP value can be defined as “false”. Default value is “false”, and this enhances the performance. Unless there is a requirement, the usage restriction need not be enabled.



Presence content XDMS – Subscriptions and search support

IBM Presence Content XDMS

- Supports UA-PROFILE and XCAP-DIFF events
- Element-level subscriptions supported.

```
Default template for nodeLevelConstraint
<nodeLevelConstraints>
   <nodeLevelConstraint>
          content/data
   </nodeLevelConstraint>
</nodeLevelConstraints>
```

- Supports search using XQuery; no default search template

XML Document Management Server

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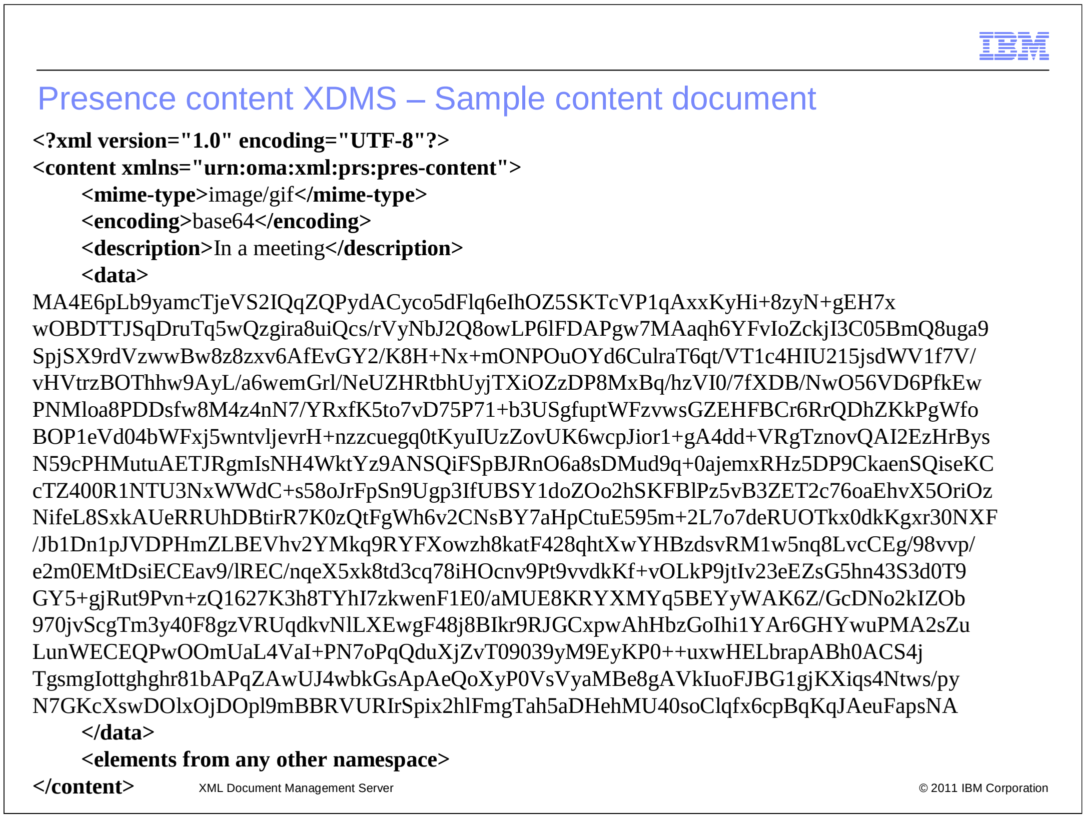
Content XDMS supports subscriptions and search according to the specification. It mainly supports two events - UA-PROFILE and XCAP DIFF. UA-PROFILE is used only for subscription to the user's home directory or to a particular document. It has some limitations and all those can be overcome using XCAP-DIFF event to subscribe to multiple documents and to non-existent documents.

Content XDMS supports both the events; and XCAP-DIFF allows subscription to element level. XDMS supports element-level subscription to only one level down from the root element. For this, a particular template is required. The default template defined in Content XDMS is up to content/data element. If the you want to extend the schema, you can add your own template to handle node-level subscription.

Content XDMS supports search using XQuery. There are no attributes in any of the elements in the default namespace and the only elements are in Content XDMS. This is why no default search template is provided, but the client can add their own template to handle queries.



Presence content XDMS – Sample content document

```
<?xml version="1.0" encoding="UTF-8"?>
<content xmlns="urn:oma:xml:prs:pres-content">
        <mime-type>image/gif</mime-type>
        <encoding>base64</encoding>
        <description>In a meeting</description>
        <data>
MA4E6pLb9yamcTjeVS2IQqZQPydACyco5dFlq6eIhOZ5SKTcVP1qAxxKyHi+8zyN+gEH7x
wOBDTTJSqDruTq5wQzgira8uiQcs/rVyNbJ2Q8owLP6lFDAPgw7MAaqh6YFvIoZckjI3C05BmQ8uga9
SpjSX9rdVzwwBw8z8zxv6AfEvGY2/K8H+Nx+mONPOuOYd6CulraT6qt/VT1c4HIU215jsdWV1f7V/
vHVtrzBOThhw9AyL/a6wemGrl/NeUZHRtbhUyjTXiOZzDP8MxBq/hzVI0/7fXDB/NwO56VD6PfkEw
PNMloa8PDDsfw8M4z4nN7/YRxfK5to7vD75P71+b3USgfuptWFzvwsGZEHFBCr6RrQDhZKkPgWfo
BOP1eVd04bWFxj5wntvljevrH+nzzcuegq0tKyuIUzZovUK6wcpJior1+gA4dd+VRgTznovQAI2EzHrBys
N59cPHMutuAETJRgmIsNH4WktYz9ANSQiFSpBJRnO6a8sDMud9q+0ajemxRHz5DP9CkaenSQiseKC
cTZ400R1NTU3NxWWdC+s58oJrFpSn9Ugp3IfUBSY1doZOo2hSKFBlPz5vB3ZET2c76oaEhvX5OriOz
NifeL8SxkAUeRRUhDBtirR7K0zQtFgWh6v2CNsBY7aHpCtuE595m+2L7o7deRUOTkx0dkKgxr30NXF
/Jb1Dn1pJVDPHmZLBEVhv2YMkq9RYFXowzh8katF428qhtXwYHBzdsvRM1w5nq8LvcCEg/98vvp/
e2m0EMtDsiECEav9/lREC/nqeX5xk8td3cq78iHOcnv9Pt9vvdkKf+vOLkP9jtIv23eEZsG5hn43S3d0T9
GY5+gjRut9Pvn+zQ1627K3h8TYhI7zkwenF1E0/aMUE8KRYXMYq5BEYyWAK6Z/GcDNo2kIZOb
970jvScgTm3y40F8gzVRUqdkvNlLXEwgF48j8BIkr9RJGCxpwAhHbzGoIhi1YAr6GHYwuPMA2sZu
LunWECEQPwOOmUaL4VaI+PN7oPqQduXjZvT09039yM9EyKP0++uxwHELbrapABh0ACS4j
TgsmgIottghghr81bAPqZAwUJ4wbkGsApAeQoXyP0VsVyaMBe8gAVkIuoFJBG1gjKXiqs4Ntws/py
N7GKcXswDOlxOjDOpl9mBBRVURIrSpix2hlFmgTah5aDHehMU40soClqfx6cpBqKqJAeuFapsNA
        </data>
        <elements from any other namespace>
</content>
```

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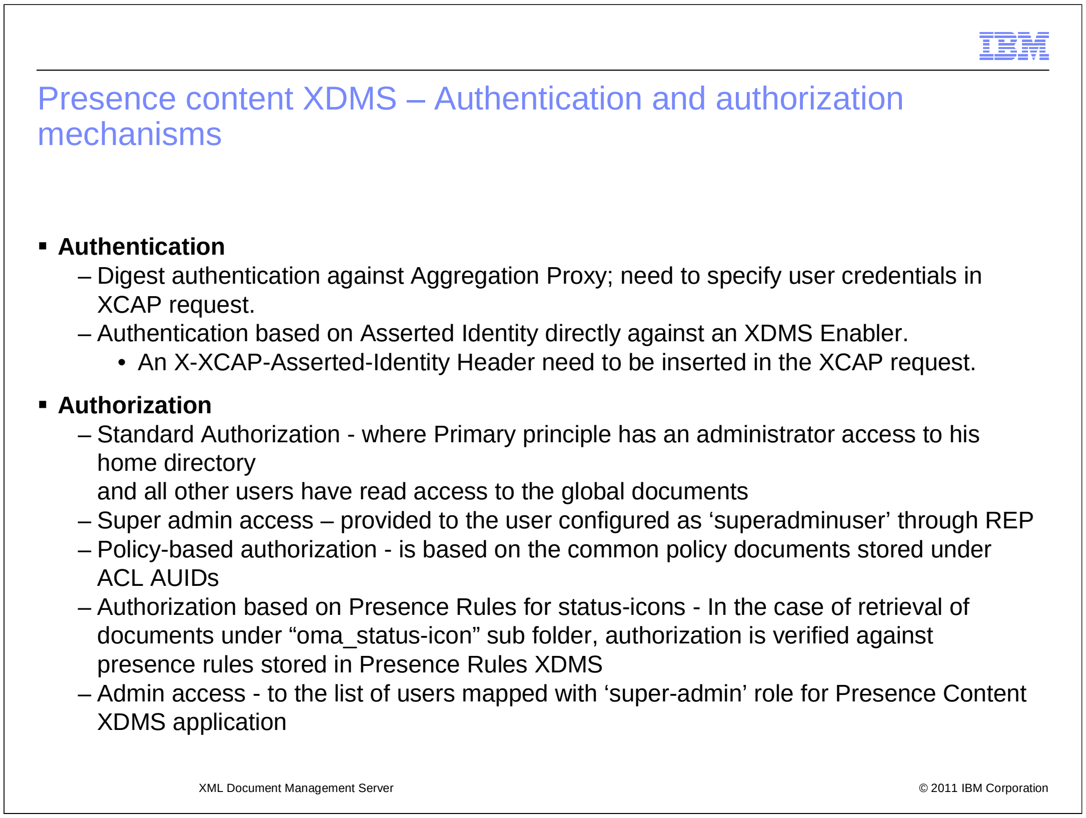
This is the sample content document. It is an XML document with “content” as a root element and default namespace as “urn:oma:xml:prs:pres-content”. To extend the schema, a client can add their own namespace and within that namespace, they can add their own element. Under “content”, the mandatory element is “data”. This is where the actual binary information is stored and this information provides the type of image using a “mime-type” element and the encoding required is in the “encoding” element. The other optional element is “description” element.

Any other element from any other namespace can also be added. This is where you can extend Presence Content XDMS.



Presence content XDMS – Authentication and authorization mechanisms

- **Authentication**
  - – Digest authentication against Aggregation Proxy; need to specify user credentials in XCAP request.
  - – Authentication based on Asserted Identity directly against an XDMS Enabler.
    - An X-XCAP-Asserted-Identity Header need to be inserted in the XCAP request.
- **Authorization**
  - – Standard Authorization - where Primary principle has an administrator access to his home directory
    and all other users have read access to the global documents
  - – Super admin access – provided to the user configured as ‘superadminuser’ through REP
  - – Policy-based authorization - is based on the common policy documents stored under ACL AUIDs
  - – Authorization based on Presence Rules for status-icons - In the case of retrieval of documents under “oma_status-icon” sub folder, authorization is verified against presence rules stored in Presence Rules XDMS
  - – Admin access - to the list of users mapped with ‘super-admin’ role for Presence Content XDMS application

XML Document Management Server

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This slide explains about the authentication and authorization mechanism followed by Presence Content XDMS, which is similar to other XDMS enablers except while using status icon.

For authentication, it uses digest authentication against aggregation proxy. For this, you need to provide user credentials in XCAP request. One more authentication method is based on asserted identity directly against an XDMS enabler.

There are different types of authorization:

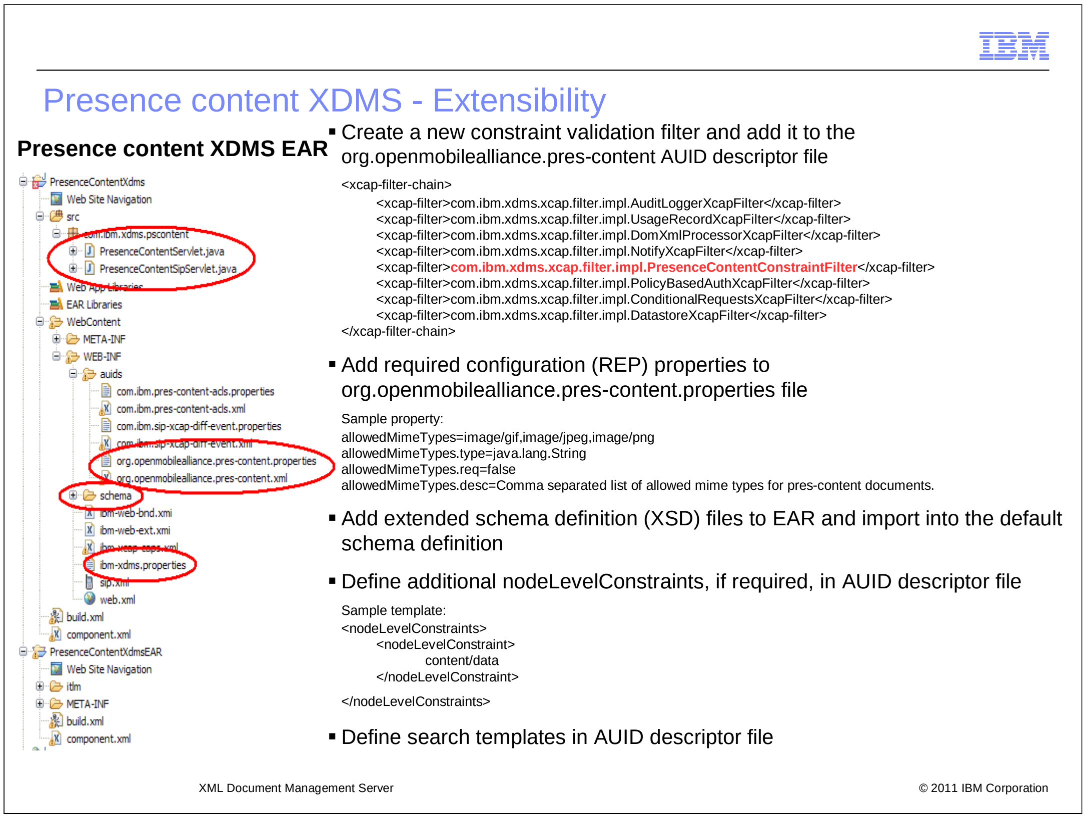
- Standard authorization - where primary principle has an administrator access to his home directory and all other users have read access to the global document.

- super admin access – configurable access provided to the user configured as “superadminuser” through REP

- policy based authorization - where authorization is based on the common policy document stored under ACL AUIDs

- authorization based on Presence Rules for status icon - In the case of retrieval of documents under “oma_status-icon” sub folder, presence rules is contacted for authorization before providing status icon to the presence client.

- admin access – is provided to the list of users mapped with “super-admin” role for Presence Content XDMS application



Presence content XDMS - Extensibility

Presence content XDMS EAR

- Create a new constraint validation filter and add it to the org.openmobilealliance.pres-content AUID descriptor file

```
<xcap-filter-chain>
        <xcap-filter>com.ibm.xdms.xcap.filter.impl.AuditLoggerXcapFilter</xcap-filter>
        <xcap-filter>com.ibm.xdms.xcap.filter.impl.UsageRecordXcapFilter</xcap-filter>
        <xcap-filter>com.ibm.xdms.xcap.filter.impl.DomXmlProcessorXcapFilter</xcap-filter>
        <xcap-filter>com.ibm.xdms.xcap.filter.impl.NotifyXcapFilter</xcap-filter>
        <xcap-filter>com.ibm.xdms.xcap.filter.impl.PresenceContentConstraintFilter</xcap-filter>
        <xcap-filter>com.ibm.xdms.xcap.filter.impl.PolicyBasedAuthXcapFilter</xcap-filter>
        <xcap-filter>com.ibm.xdms.xcap.filter.impl.ConditionalRequestsXcapFilter</xcap-filter>
        <xcap-filter>com.ibm.xdms.xcap.filter.impl.DatastoreXcapFilter</xcap-filter>
</xcap-filter-chain>
```

- Add required configuration (REP) properties to org.openmobilealliance.pres-content.properties file

Sample property:

```
allowedMimeTypes=image/gif,image/jpeg,image/png
allowedMimeTypes.type=java.lang.String
allowedMimeTypes.req=false
allowedMimeTypes.desc=Comma separated list of allowed mime types for pres-content documents.
```

- Add extended schema definition (XSD) files to EAR and import into the default schema definition
- Define additional nodeLevelConstraints, if required, in AUID descriptor file

Sample template:

```
<nodeLevelConstraints>
        <nodeLevelConstraint>
                content/data
        </nodeLevelConstraint>

</nodeLevelConstraints>
```

- Define search templates in AUID descriptor file

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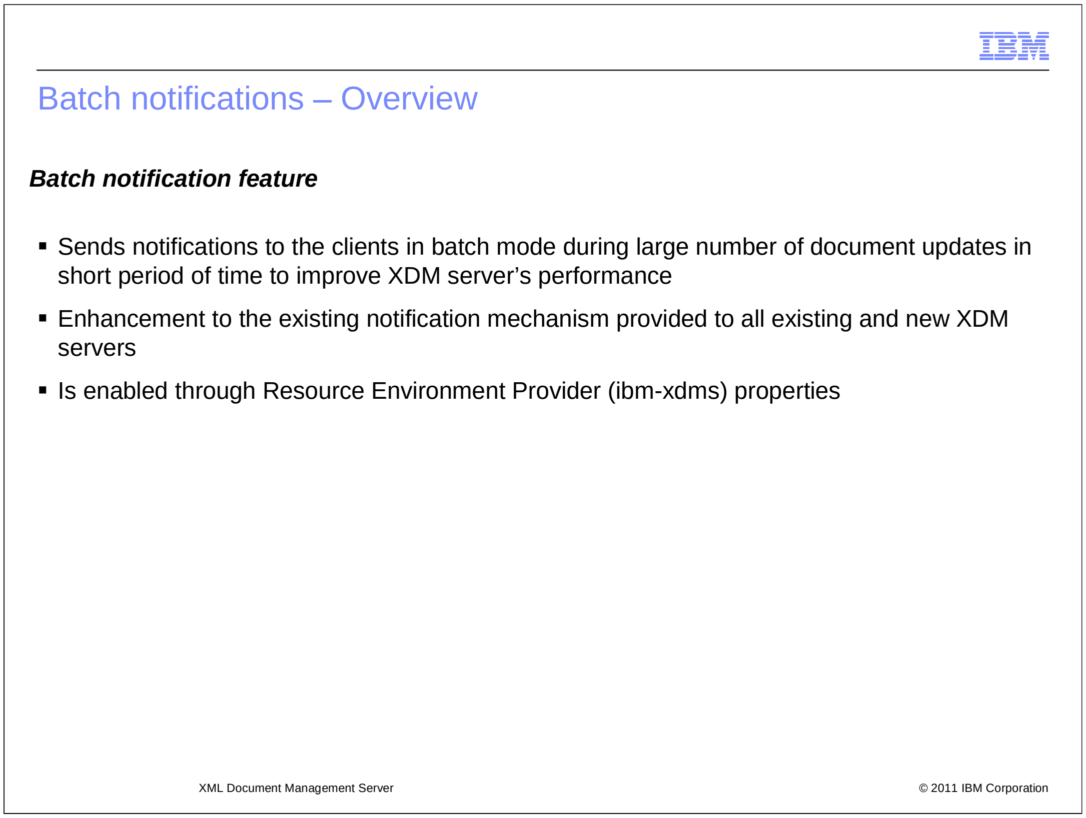
This slide is about Presence Content XDMS extensibility. The specification talks only about status icon and generic content. If the client wants to extend for some other purpose or if they want to define content type like status icon, then they can extend this content XDMS with minimal development effort. This slide shows the .ear file structure and it explains the changes required to be done.

To add a new validation constraint, you can add your own filter to the XCAP filter chain, which is a part of the AUID file. Presence content constraint filter is default and this can be modified with a user-defined filter. More information, such as guidelines to develop custom enablers, filters, and helper functions is provided in the ICSE toolkit.

If any new configurable properties are required, you can add it to REP through AUID org.openmobilealliance.pres-content.properties file, which is a part of AUID stored under WEB_INF in the content XDMS ear file. A sample is given in this slide. To add a new property, four types of elements are required - name of the property, type of the property, is property required, and description of the property.

To extend the schema given by OMA, you can have your own XSD file, which can be added to the schema folder under WEB-INF. A sample template is given in this slide.

If you add your own schema, you can add your own search template. The search template is not defined under AUID because the content is straight forward.



Batch notifications – Overview

Batch notification feature

- Sends notifications to the clients in batch mode during large number of document updates in short period of time to improve XDM server's performance
- Enhancement to the existing notification mechanism provided to all existing and new XDM servers
- Is enabled through Resource Environment Provider (ibm-xdms) properties

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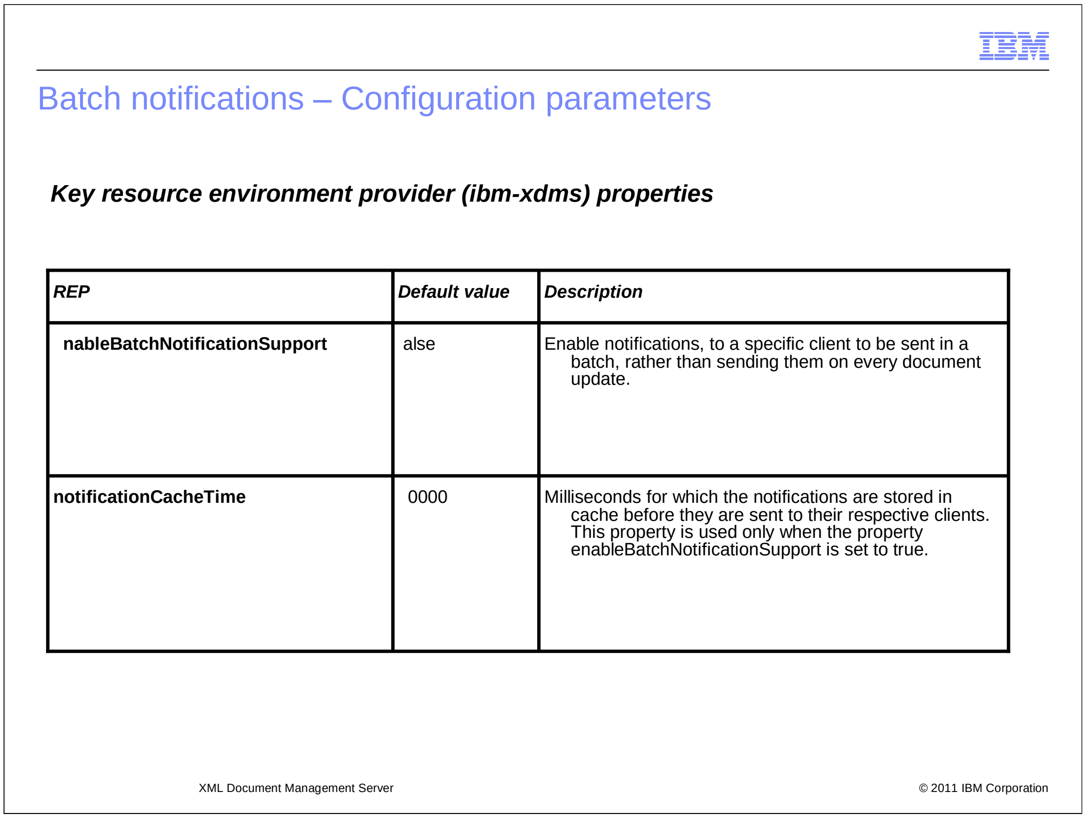
This slide gives the overview of batch notifications. Current XDMS enablers send notifications to all the clients subscribed to document update. If there are multiple changes to the document within a short period of time, it sends notification for each change. This impacts the performance. The batch notification feature is an enhancement to the existing notification mechanism. In batch notification, administrator can configure to send notifications in a batch mode rather than as individual notifications. The administrator can define a specific period of time to wait and during which the batch notification collects all the notifications and sends it in a single notification. It can be enabled through the resource environment property mentioned in the next slide.



Batch notifications – Configuration parameters

Key resource environment provider (ibm-xdms) properties

REP	***Default value***	***Description***
nableBatchNotificationSupport	alse	Enable notifications, to a specific client to be sent in a batch, rather than sending them on every document update.
notificationCacheTime	0000	Milliseconds for which the notifications are stored in cache before they are sent to their respective clients. This property is used only when the property enableBatchNotificationSupport is set to true.

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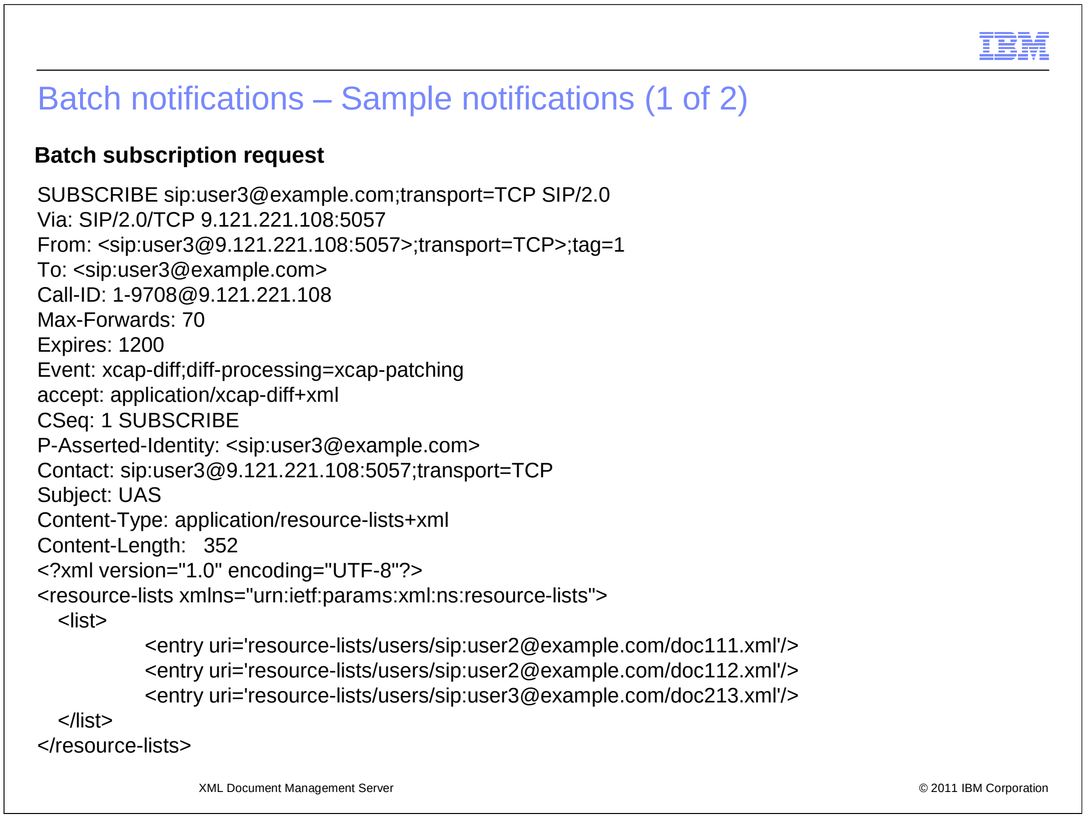
This slide gives the configuration parameters for batch notification. Two parameters specific to batch notification comes under ibm-xdms resource environment providers.

- enable batch notification support - Default value is “false”. To enable batch notification, configure this value to “true”.

- notification cache time - Default value is “60,000 millisecond”. This is valid only when the batch notification value is set to “true”. XDM server waits for the time mentioned here and collects notification for this period of time and sends it in a single notification.



Batch notifications – Sample notifications (1 of 2)

Batch subscription request

```
SUBSCRIBE sip:user3@example.com;transport=TCP SIP/2.0
Via: SIP/2.0/TCP 9.121.221.108:5057
From: <sip:user3@9.121.221.108:5057>;transport=TCP>;tag=1
To: <sip:user3@example.com>
Call-ID: 1-9708@9.121.221.108
Max-Forwards: 70
Expires: 1200
Event: xcap-diff;diff-processing=xcap-patching
accept: application/xcap-diff+xml
CSeq: 1 SUBSCRIBE
P-Asserted-Identity: <sip:user3@example.com>
Contact: sip:user3@9.121.221.108:5057;transport=TCP
Subject: UAS
Content-Type: application/resource-lists+xml
Content-Length:   352
<?xml version="1.0" encoding="UTF-8"?>
<resource-lists xmlns="urn:ietf:params:xml:ns:resource-lists">
   <list>
                <entry uri='resource-lists/users/sip:user2@example.com/doc111.xml'/>
                <entry uri='resource-lists/users/sip:user2@example.com/doc112.xml'/>
                <entry uri='resource-lists/users/sip:user3@example.com/doc213.xml'/>
   </list>
</resource-lists>
```

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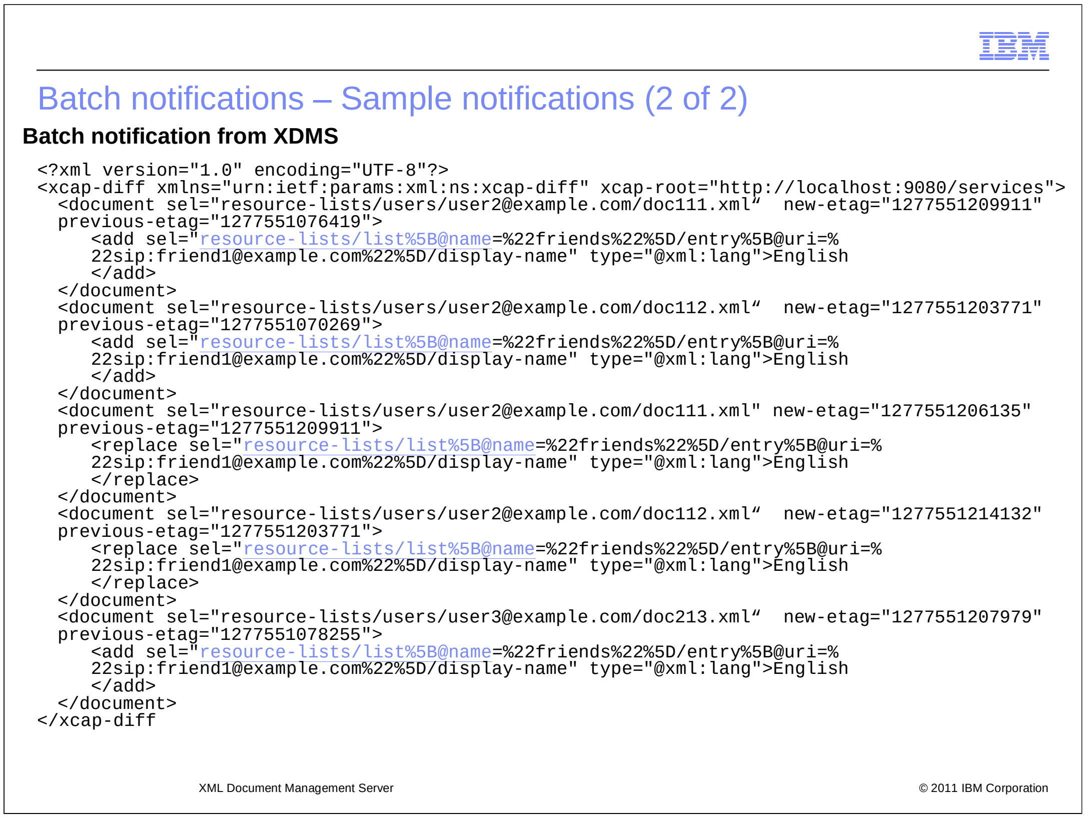
This slide shows a sample subscription request.

It uses XCAP-DIFF event type and using this sends batch subscription to three different documents.



Batch notifications – Sample notifications (2 of 2)

Batch notification from XDMS

```
<?xml version="1.0" encoding="UTF-8"?>
<xcap-diff xmlns="urn:ietf:params:xml:ns:xcap-diff" xcap-root="http://localhost:9080/services">
  <document sel="resource-lists/users/user2@example.com/doc111.xml“  new-etag="1277551209911"
  previous-etag="1277551076419">
     <add sel="resource-lists/list%5B@name=%22friends%22%5D/entry%5B@uri=%
     22sip:friend1@example.com%22%5D/display-name" type="@xml:lang">English
     </add>
  </document>
  <document sel="resource-lists/users/user2@example.com/doc112.xml“  new-etag="1277551203771"
  previous-etag="1277551070269">
     <add sel="resource-lists/list%5B@name=%22friends%22%5D/entry%5B@uri=%
     22sip:friend1@example.com%22%5D/display-name" type="@xml:lang">English
     </add>
  </document>
  <document sel="resource-lists/users/user2@example.com/doc111.xml" new-etag="1277551206135"
  previous-etag="1277551209911">
     <replace sel="resource-lists/list%5B@name=%22friends%22%5D/entry%5B@uri=%
     22sip:friend1@example.com%22%5D/display-name" type="@xml:lang">English
     </replace>
  </document>
  <document sel="resource-lists/users/user2@example.com/doc112.xml“  new-etag="1277551214132"
  previous-etag="1277551203771">
     <replace sel="resource-lists/list%5B@name=%22friends%22%5D/entry%5B@uri=%
     22sip:friend1@example.com%22%5D/display-name" type="@xml:lang">English
     </replace>
  </document>
  <document sel="resource-lists/users/user3@example.com/doc213.xml“  new-etag="1277551207979"
  previous-etag="1277551078255">
     <add sel="resource-lists/list%5B@name=%22friends%22%5D/entry%5B@uri=%
     22sip:friend1@example.com%22%5D/display-name" type="@xml:lang">English
     </add>
  </document>
</xcap-diff
```

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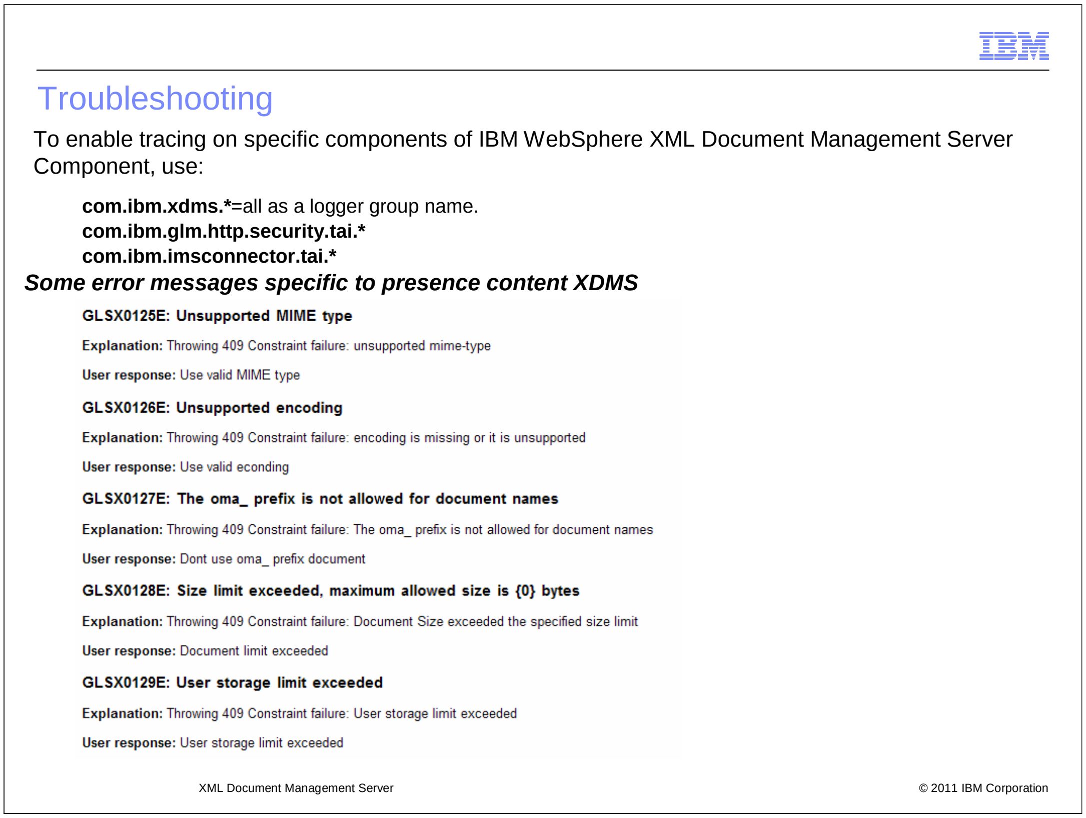
This slide shows the sample notification when batch notification is enabled.

All the changes can be seen in a single notification. There are some changes in document 111, some changes in document 112 , and one change in document 213. Batch notification waits for the configured time and sends these changes in a single notification.



Troubleshooting

To enable tracing on specific components of IBM WebSphere XML Document Management Server Component, use:

com.ibm.xdms.*=all as a logger group name.
com.ibm.glm.http.security.tai.*
com.ibm.imsconnector.tai.*

Some error messages specific to presence content XDMS

GLSX0125E: Unsupported MIME type

Explanation: Throwing 409 Constraint failure: unsupported mime-type

User response: Use valid MIME type

GLSX0126E: Unsupported encoding

Explanation: Throwing 409 Constraint failure: encoding is missing or it is unsupported

User response: Use valid econding

GLSX0127E: The oma_ prefix is not allowed for document names

Explanation: Throwing 409 Constraint failure: The oma_ prefix is not allowed for document names

User response: Dont use oma_ prefix document

GLSX0128E: Size limit exceeded, maximum allowed size is {0} bytes

Explanation: Throwing 409 Constraint failure: Document Size exceeded the specified size limit

User response: Document limit exceeded

GLSX0129E: User storage limit exceeded

Explanation: Throwing 409 Constraint failure: User storage limit exceeded

User response: User storage limit exceeded

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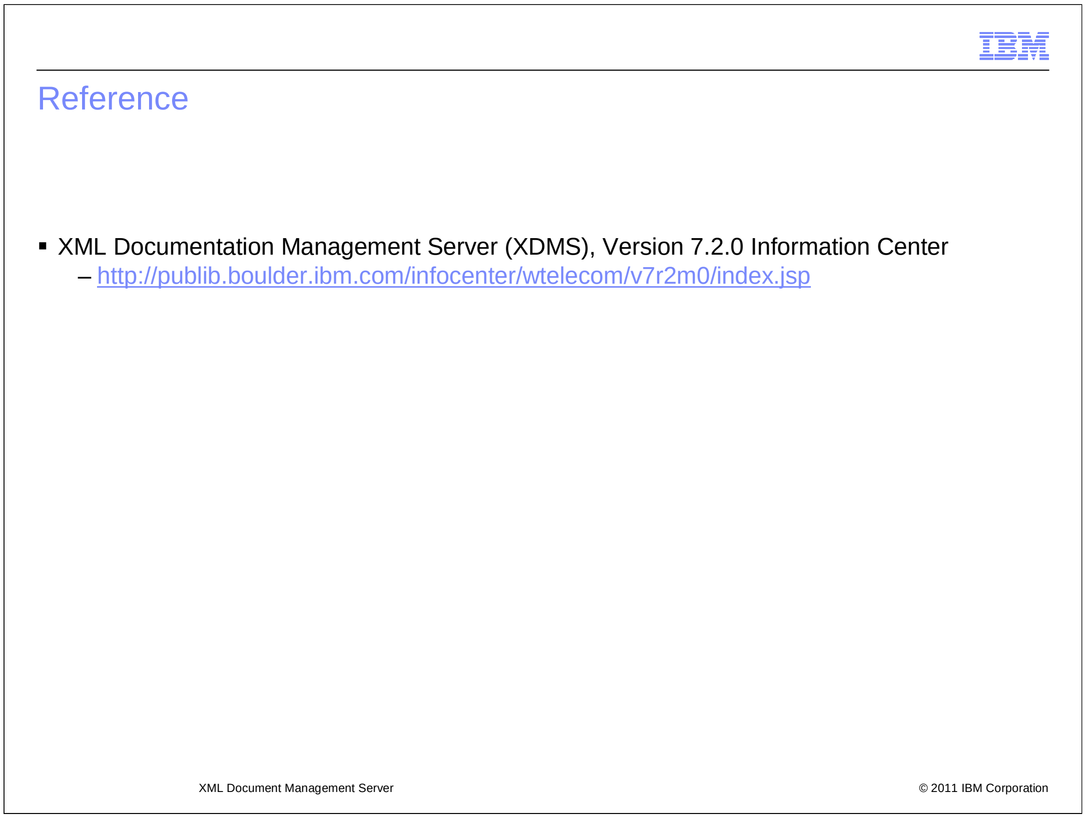
Troubleshooting is done through the trace string whenever there is a problem in Content XDMS. To enable trace string, use:

- com.ibm.xdms

- com.ibm.glm.http.security.tai (required for aggregation TAI)

- com.ibm.imsconnector.tai (required for IMS connector TAI interceptors trace string configured in XDM server)

Some of the error messages specific to Presence Content XDMS are also shown in this slide. These messages are displayed along with the 409 constraint failure exception.



Reference

- XML Documentation Management Server (XDMS), Version 7.2.0 Information Center
  - http://publib.boulder.ibm.com/infocenter/wtelecom/v7r2m0/index.jsp

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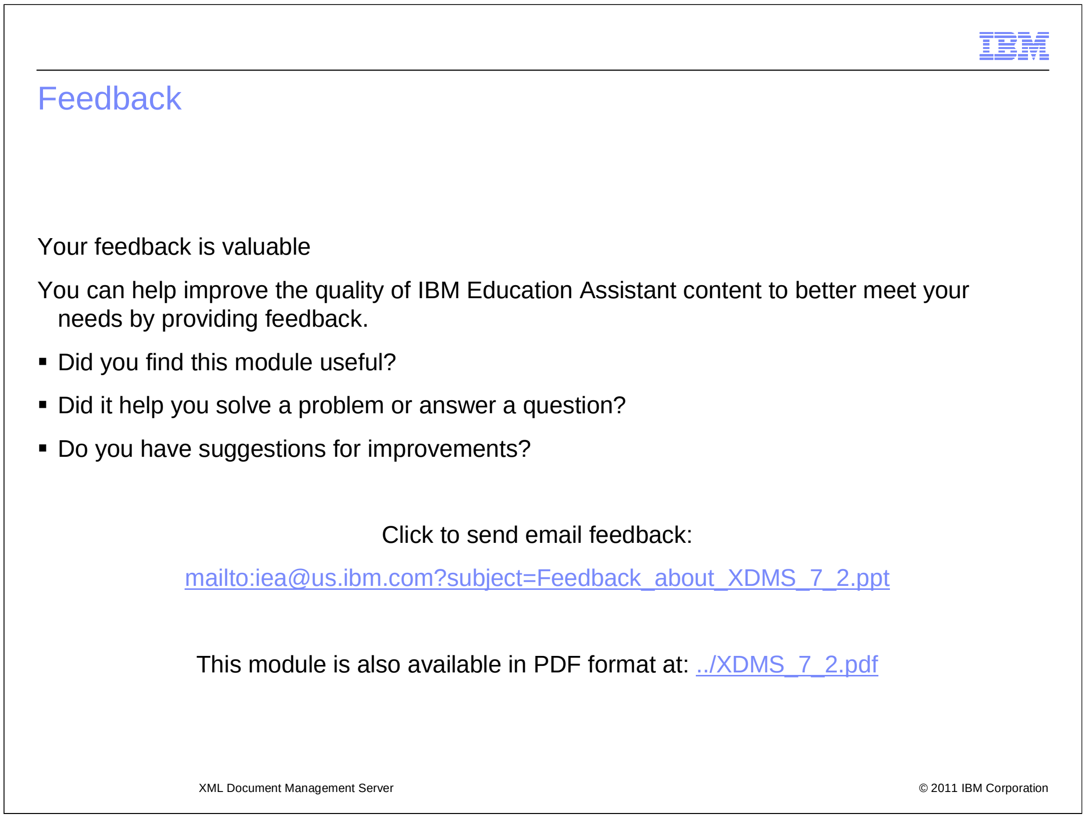
For more information on XDMS, see the information center (http://publib.boulder.ibm.com/infocenter/wtelecom/v7r2m0/index.jsp?topic=/com.ibm.xdms.doc/home.html).



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This module is also available in PDF format at: ../XDMS_7_2.pdf

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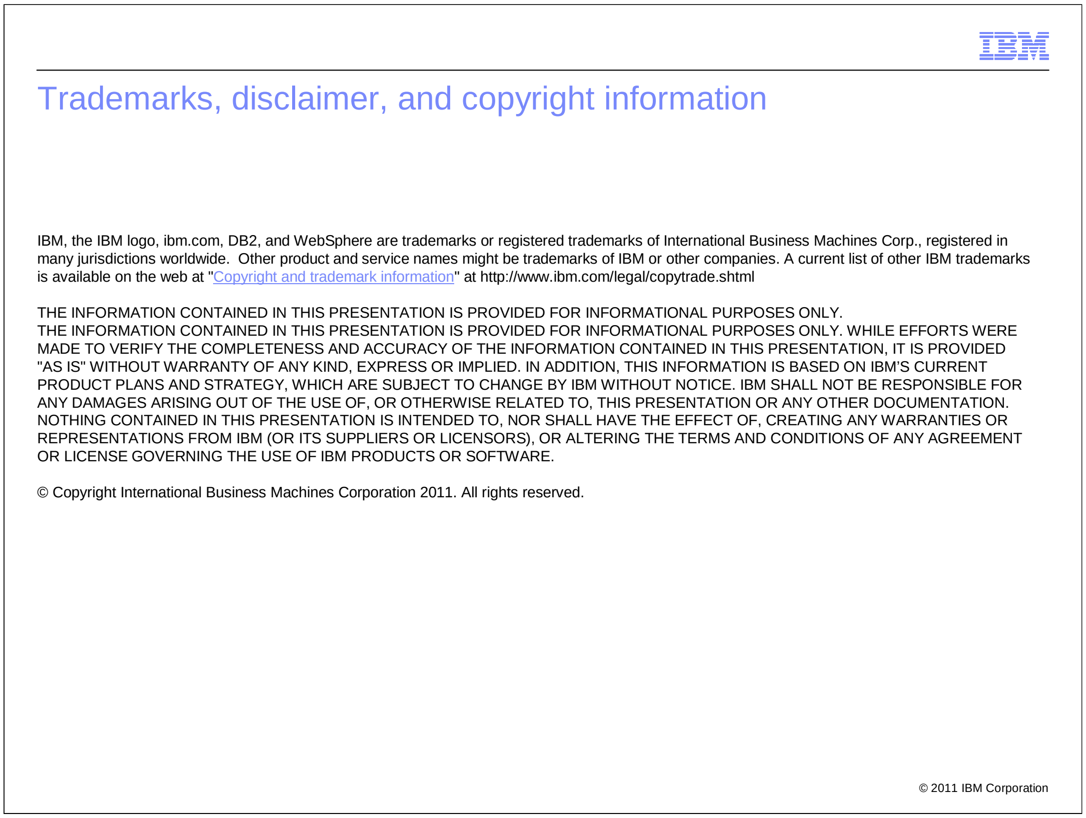

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