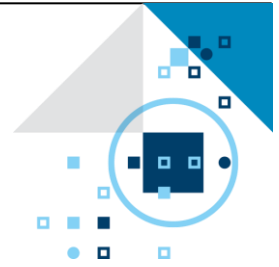Shailesh Gupta – Solution Portfolio Manager
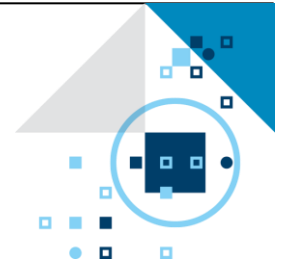
Best Practices with IBM Content Manager

Agenda

➢ **Using some of the new features of IBM Content Manager Version 8.5 to**

 • Control storage consumption and storage costs

 • Achieve better availability of your CM deployment

 • Integrate with other Non-content applications

 • And more…

➢ **Upgrading to CM 8.5**

CM 8.5 – Shipped Nov 2013

Major Themes and Some of the Features at a glance

Feature Enhancements

- Retention Management
- Write-Through Cache
- Access Control Enhancements
- Simple ACL Inheritance
- Improved Document Conversion and Rendering
- Native PDF Support
- Enhance Item ACL Setting on Reindex
- DB2TS Support
- z/OS Support for Universal Tablespace
- DB2 z/OS Package Versioning

Security

- Secure Transport
- NIST SP800-131a Support
- Encryption of Database Password in WAS
- Use of Restricted Service ID between z/OS RM and Library Server

Consumability

- Install Improvements
- Admin Client for Hierarchical Foldering
- Query - Sort Attributes for Mixed Results
- Event Handler Toolkit
- Event Monitor, Event Handler Background processing
- System Move Documentation
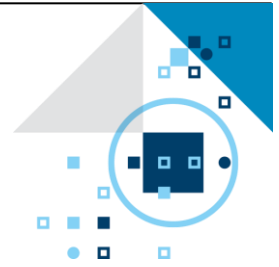- OAM Expiration Synch Process
- Java OEM Tool kit documented

Performance

- Improve z/OS Replicator Performance
- SQL Parameter Markers
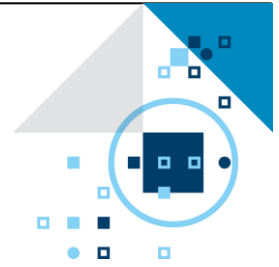- Improve DB2/OAM Connection

Business Continuity Enablement

- Synchronous Replication
- Quiesce Server
- Support for DB2 PureScale

3

Best Practices

➢ **Using some of the new features of IBM Content Manager Version 8.5 to**

- Control storage consumption and storage costs

- Achieve better availability of your CM deployment

- Integrate with other Non-content applications

- And more…
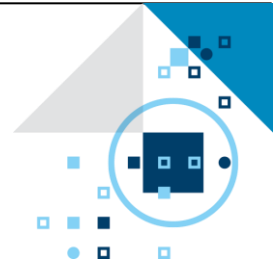
Controlling Storage Consumption and Storage Cost

➢ **Problem: Information Economics**

- Rising uncontrolled data volume leads to increasing economic pressure on all stakeholders

- Value of information generally declines overtime

- Whereas costs and risks do not decrease with passage of time

➢ **The Need : Retention Management which is controlled and enforced by repository**

- **Policy based Retention**: Having well defined life span for all content based on business needs and or legal requirements

- **Periodic or automatic purging** of content that has aged beyond the established life span or legal requirements

- **Provision for applying Legal Holds**:

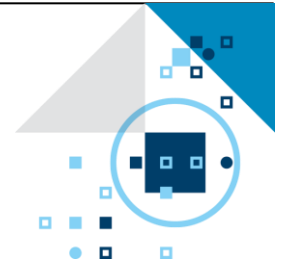# Controlling Storage Consumption and Storage Cost

- **Solution : Retention Management in CM 8.5**

  - **Goals**

    - Prevent early deletion of important documents

    - Provide configurable automatic deletion of expired documents.

    - Provide basic retention, expiration, and hold without a records management solution

  - **Features Implemented**

    - Retention for fixed time period

    - Event driven Retention

    - Expiration

    - Automatic deletion of expired items,

    - Document Hold

Retention Management in CM 8.5
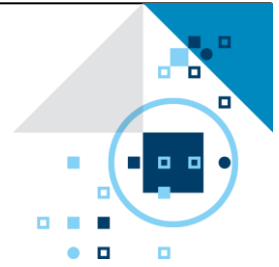
- **Terminology**

  - **Retention**: A definite period to ensure a document is available by preventing deletion and preventing modification of content. Versioning is allowed.

  - **Expiration**: A set date that after which a document expires and should be deleted.

  - **Hold**:

    - Prevent deletion indefinitely.

    - Modification is not allowed.

    - Can have multiple holds on a document, deletion can only occur when all holds are removed.

    - Versioning is permitted

  - **Auto-delete**: Expiration policy that deletes expired documents automatically

Retention Management

Retention Policy Object

Policy Name, Description
Fixed Time or Event Based
Retention Duration
Expiration Duration
Deletion Schedule for expired items

➢ **Configuring Retention Policy**

- Each Retention Policy Is a named object
  - Configured for fixed time or event based retention
- Retention and Expiration period are specified separately
- Fixed Time: Starts as soon as a document is created
- Event-driven: Starts when the event occurs.
- Deletion schedule can be configured to
  - Delete expired items as per defined schedule or
  - It can be set to do nothing
- Same Retention Policy can be applied to more than one item-type
- Once retention policy is applied to an item-type, CM automatically add attributes to item-type to store retention and expiration dates etc..

Retention Management

Retention Policy Object

Policy Name, Description
Fixed Term or Event Based
Retention Duration
Expiration Duration
Deletion Schedule for expired items

➢ **Runtime behavior**

- Upon creation of item, Retention and Expiration Dates are calculated based on associated policy object

- RetentionAdmin who has the new privilege ItemTypeRetentionAdmin can change any retention related setting in an item type or for a document

- CM blocks Deletion of item or modification of content until retention period is in force

- CM logs audit events for any failed deletes, change of retention dates, or change of configuration

Retention Management in CM 8.5
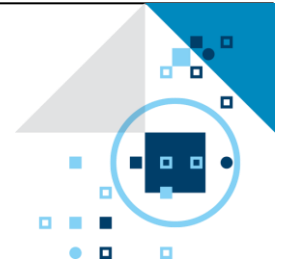
➢ **Hold:**

- Indefinitely prevent deletion or update of an item

    - Supersedes Retention and Expiration

- **To put items on hold**

    - Hold container is created which contains the reason for hold

        - A separate item-type is used for all the hold containers

    - Item-type needs to be enabled for "On Hold" Item-Type in order for it's items to be held.

        - One time operation.

        - When enabled, hold attribute is added to item-type

    - New APIs are provided to apply holds or unholds on thousands of items efficiently

- Multiple items across different item-types may be held for one matter/reason

    - Each Hold Container (representing hold reason) is associated with multiple items

- Same item may be held for multiple hold reasons

    - An Item may be associated with multiple hold containers

- For items on hold, only the ACL, RetentionDate, and ExpirationDate may be updated

- Any attempted deletes or change to a hold state is automatically logged for audit purposes
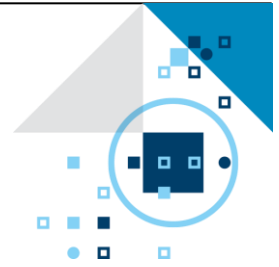
Retention Management in CM 8.5

➢ **Auto Delete:**

- Provide automatic deletion of expired documents, if auto-delete is configured

- New API is provided to get expired items

- API can report expired items without deleting

- Configuration for Global or per item type auto delete scheduling

- Database scheduler is leveraged
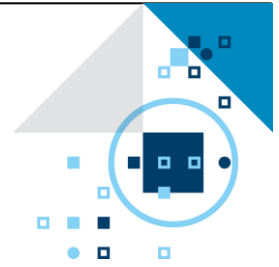
Achieving better availability in CM Deployment

➢ **Common elements for achieving better availability**

- **HA Configuration**

- **HA with Disaster Recovery Configuration**

- **Periodic data backups**

➢ **New Improvements in CM 8.5**

- **DB2 PureScale support** for Active-Active HA configuration

- **Synchronous Replication** for improved disaster recovery support

- **Quiesce State for CM** for taking consistent snapshot/backup of file systems, text indexes and databases used by CM

Features in CM 8.5 for improved availability

➢ **DB2 PureScale**

- DB2 PureScale is now supported with CM 8.5. It provides for Active-Active HA configuration with DB2 database.

- Reference White Paper is available for configuring CM with DB2 PureScale in Active-Active configuration

  - http://www.ibm.com/support/docview.wss?uid=swg27041390

More features in CM 8.5 for improving availability

➤ **Problem: How to take consistent snapshot or backup of CM System**

- CM System comprises of 1 Library Server (LS) and 1 or more Resource Managers (RM)

- LS and RM run independently and hence some operation may be completed in LS but not in RM or vice versa

- Consistent snapshot/backup implies
  - Backup copy of all CM databases, file system (LBOS data), text indexes are from a consistent state of full CM system (LS, RM)

➤ **Solution: Put CM in Quiescent State before taking any snapshot or data backup**

- CM 8.5 provides a feature in SysAdmin Client to put CM system in a Quiesce state

- In Quiesce mode all active transactions are allowed to complete but no new connection or transactions are allowed

- Once CM is quiesced, take your backup

- Unquiesce or Activate the system after backup is complete.

- Quiesce and Activate operations can be scheduled in SysAdmin Client

Quiesce System

Only administrator can do the quiesce and activate the system

Quiesce System icmnlsdb

Current Status
Library server: Active

Resource managers:

Name	Status
rmdb	Active

Refresh

Begin Quiesce
- ● Now
- ○ Date: Tuesday ▼ at 18 : 34
- ○ No begin date

End Quiesce
- ○ Now
- ○ Date: Tuesday ▼ at 19 : 34
- ● No end date

Grace Period for Actions in Progress
Grace period: 30 seconds

Set   Close   Help

Quiesce

Activate

Quiesce indefinite

Quiesce System icmnlsdb

Current Status
Library server: Quiescing
Server grace period remaining 24 seconds

Resource managers:

Name	Status
rmdb	Quiescing

Refresh

Begin Quiesce
- ● Now
- ○ Date: Tuesday ▼ at 18 : 34
- ○ No begin date

End Quiesce
- ○ Now
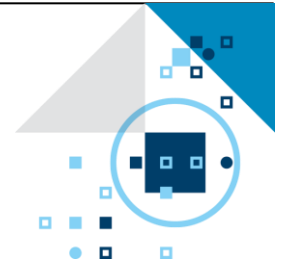- ● Date: Tuesday ▼ at 16 : 38
- ○ No end date

Grace Period for Actions in Progress
Grace period: 30 seconds

Set   Close   Help

More features in CM 8.5 for improving availability

➢ **Problem: For DR purposes OR compliance purposes how can I ensure minimum 2 copies of content at all times**

- Async Replication provides multiple copies to be made of content but there is a possibility that failure could occur before content is successfully replicated to replica Resource Managers

- In some regulatory environment or where SLA requires at least 2 copies of content at **all** times async replication is not adequate

➢ **Solution: Synchronous Replication in CM 8.5**

Synchronous Replication

➤ **Goal**

- Improved support for disaster recovery

- Ensure minimum of 2 copies of content

➤ **Implementation**

- Sync Replication is configured on per collection basis

- At run time content is created/updated at multiple resource managers/collections simultaneously as part of a transaction

➤ **Default Mode**

- Store and update operations require all replicas to succeed

➤ **Tolerant Mode**

- Store and update operations will still succeed as long as two replicas are created in separate resource managers

- Falls back to async replication for offline resource managers

CM8 8.5
Client

Resource
Manager 1

Resource
Manager 2

Resource
Manager 3
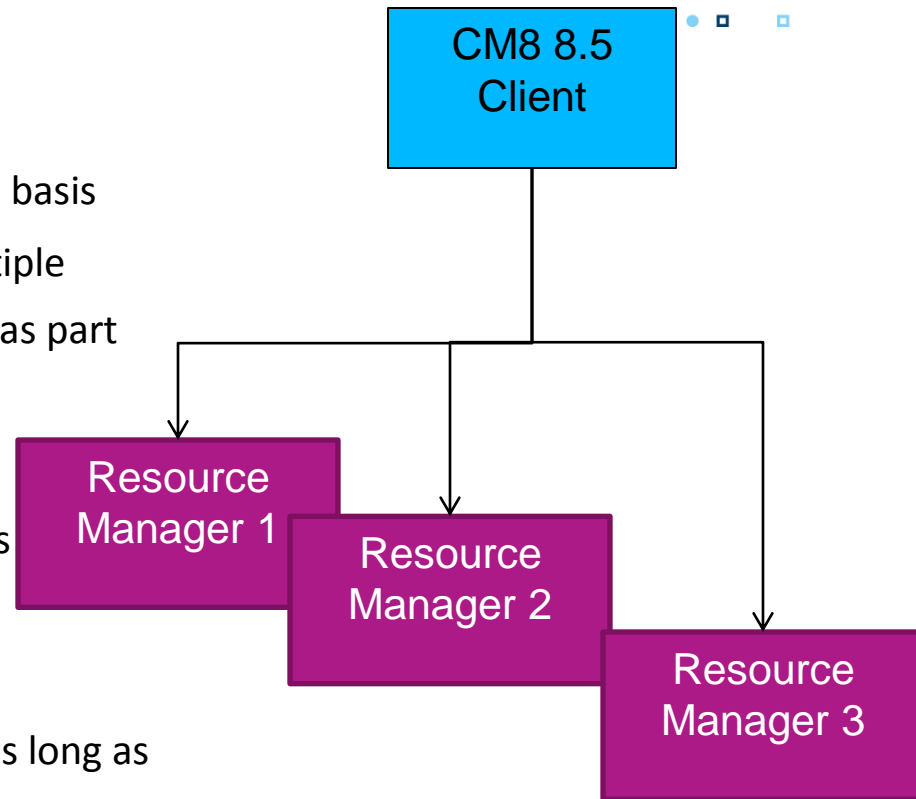
Enabling Tolerance Mode

- Enabling tolerance mode for synchronous replication

  – Select the option for "Enable tolerance mode for synchronous replication" in "Workstation Collection Properties" Panel

Integrating CM with external applications
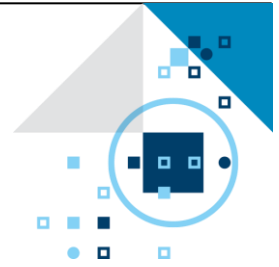
➢ **Problem:**

- When some action takes place in CM such as "document update" how can we notify someone by email or trigger an action in another enterprise application

➢ **Solution:**

- **Leverage Event Notification Framework** of CM8 to subscribe to events of interest
- **Use Event Handler Toolkit** to process events of interest and build integration with external applications such as Email or other applications

Integrating with external applications using Event handler toolkit

➤ **IBM uses same framework to integrate CM 8 with IBM Case Foundation and IBM Case Manager**

- Event handlers are provided for IBM Case Foundation and IBM Case Manager integration

➤ **New in CM 8.5**

- **Toolkit is provided to easily develop custom event handlers**

- Custom Event Handler subscribes to various events occurring in CM such as Document add, update, check-in/checkout

- CM8 sends notification to Custom Event Handler about the event.

- Event Handler processes the event and interfaces with external application such as email server to send email notification or enterprise application to trigger desired action .

Approve Change

Review & Release

External Event / Change Notification

Email Notification

Update Enterprise Applications

Deploy
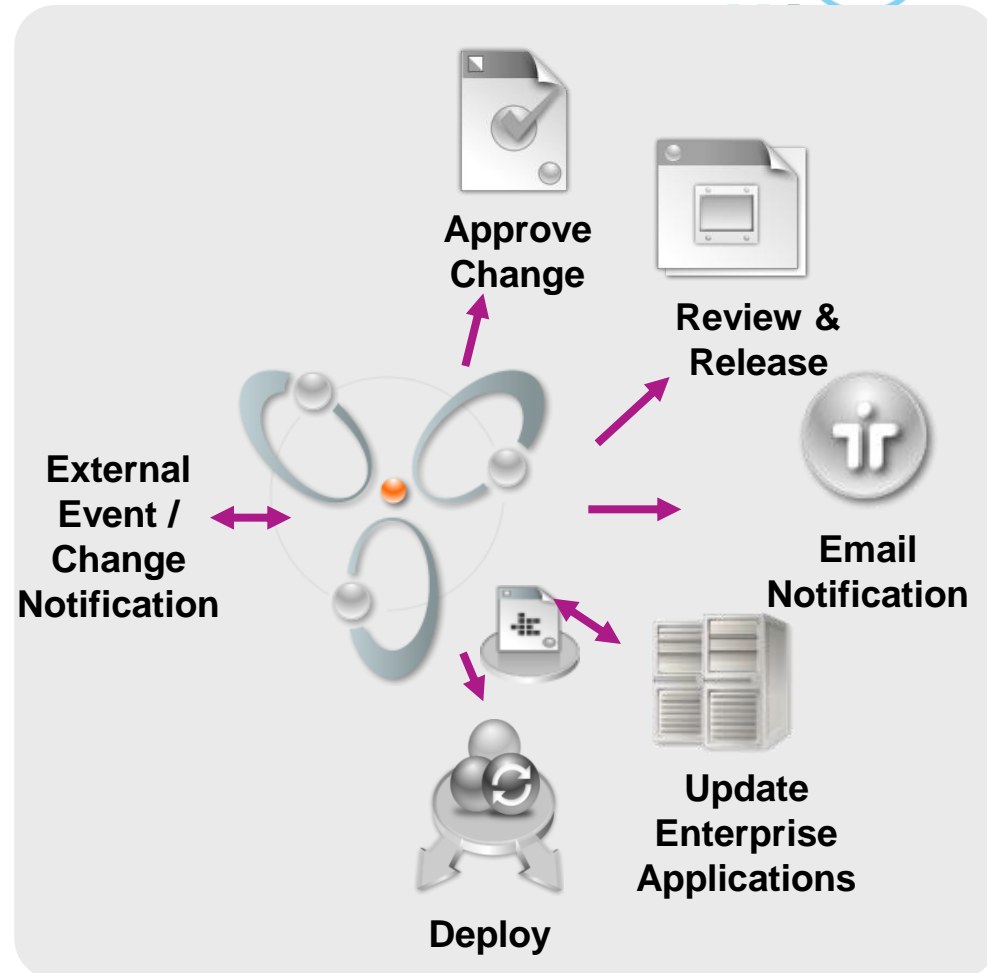
IBM Content Manager
Integrating with external applications using Event handler toolkit
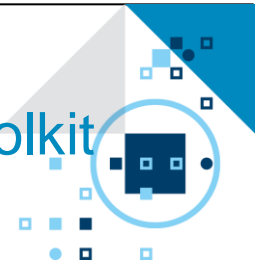
➢ **References for writing custom Event Handler**

- **Sample Programs**

  http://www-
  01.ibm.com/support/knowledgecenter/SSRS7Z_8.5.0/com.ibm.administeringcm.doc/bpmi001b.htm
  ?cp=SSRS7Z_8.5.0%2F4-0-9-10-0&lang=en

- **Event Handler Toolkit API**

  http://www-
  01.ibm.com/support/knowledgecenter/SSRS7Z_8.5.0/com.ibm.administeringcm.doc/bpmi001c.htm
  ?cp=SSRS7Z_8.5.0%2F4-0-9-10-3&lang=en

Sharing documents in CM8 repository with internal team

➢ **Problem:**

- My project team would like to create and share set of documents, how can I quickly do this with CM8 ?

➢ **Solution: Use TeamSpace in IBM Content Navigator**

- IBM Content Navigator comes bundled with CM 8.4.3 and also with CM 8.5. It provides following capabilities among several others

    - Project lead can quickly create a "TeamSpace" using team space builder.

    - Add team members to TeamSpace.

    - Define and assign roles such as Author, Editor, Reviewer etc to teamspace members

    - Start creating and sharing document using IBM Content Navigator

    - Drag and drop multiple documents from Windows/Mac desktop to repository

    - Same Java Viewer technology from eClient, Webi is in Navigator to view, annotate documents

    - Use Workflow capability in Navigator to route documents

    - Using a Microsoft Office plug-in, team members can navigate through the teamspace documents edit / update documents in the CM8 repository right from within Microsoft Office application

    - In addition you can also use IBM Content Navigator app on iOS devices to browse through teamspace documents

- Attend the IBM Content Navigator session for more information

Sharing documents from CM8 repository with external vendors/ customers

➢ **Problem:**

- How can I reliably share document(s) in CM8 repository with external vendors or customers

- I do not want to send large documents over email and clog up mail server and mail space for recipient and risk having compliance issues with unnecessary copies floating around

➢ **Solution:**

- Use QuickFile integration in IBM Content Navigator to securely share documents in CM8 repository with external users

➢ **Features of QuickFile integration in IBM Content Navigator**

- Secure File Transfer over HTTPS

- Full audit record of who sent which document, when it was sent, to whom it was sent. Most importantly who downloaded the document and when the document was downloaded

- Time Bound Download link: Sender can specify time limit to download the document. After that document is no longer available for download

  - Recipient gets email notification with download link and a comment. Recipient requires no access to CM

- Free: Limited use license to IBM QuickFile is included for free with IBM Content Navigator

Moving to Content Manager 8.5

CM 8.5.0

CM 8.4.3

CM 8.4.2

CM 8.4.1

CM 8.4.0

Note: Fixpacks may be required before upgrade
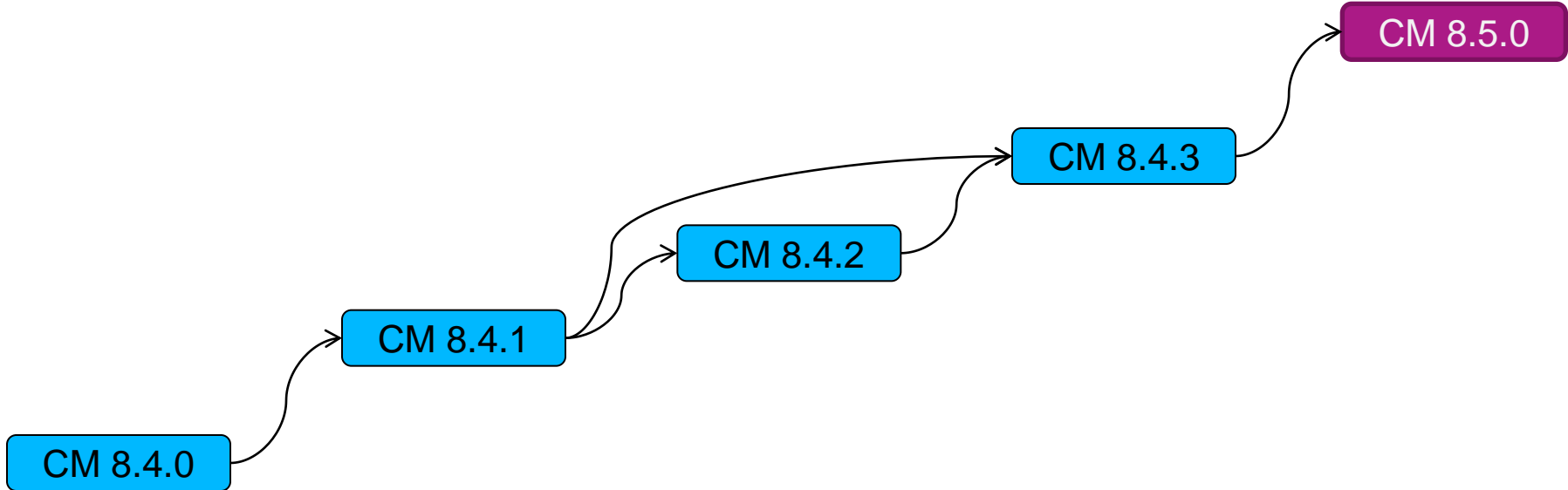
IBM Content Manager
Moving to 64bit OS

- CM8 8.5 EE no longer supports 32bit operating systems

- Upgrading from 32bit implementations may include replatforming to new hardware

- CM 8.5 provides documented guidelines and procedures to achieve this

| CM8 Library Server V8.4.3 32bit OS | → Replatform → | CM8 Library Server V8.5 64bit OS |

| Resource Manager Server V8.4.3 32bit OS | → Replatform → | Resource Manager Server V8.5 64bit OS |
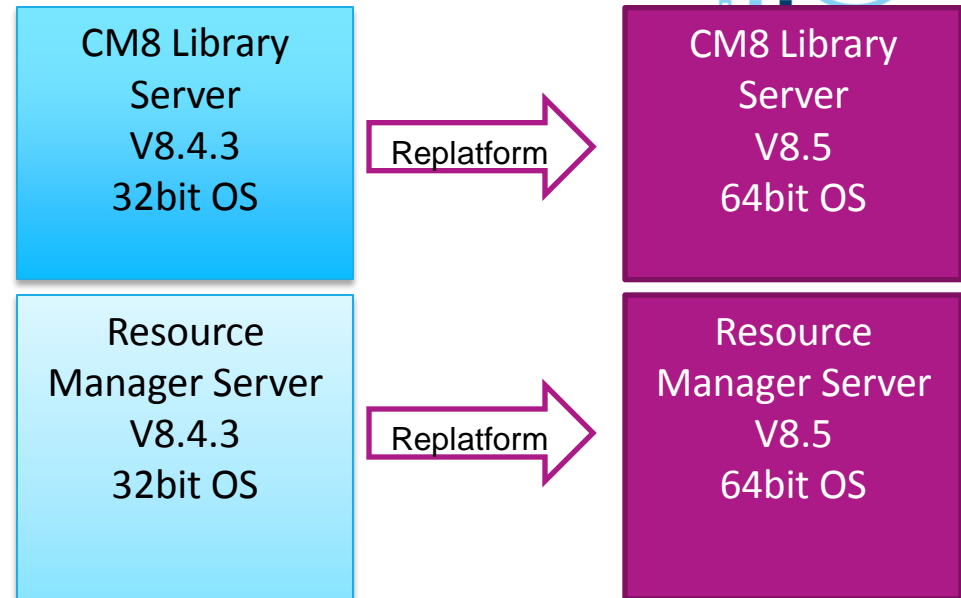
How to move CM 8.4.x to new hardware and also upgrade it to CM 8.5 ?

System Move Documentation:
http://www-01.ibm.com/support/docview.wss?uid=swg27040477

IBM Content Manger
Client applications and v8.5
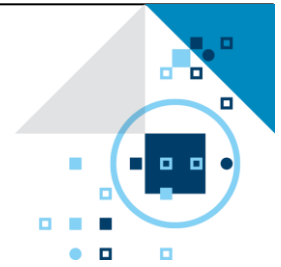
- **IBM Content Navigator (ICN) is the strategic solution for client technology.**

  - Browser, Office and Mobile client included in CM8.5

- **WEBi, eClient, Windows Client (pClient)**

  - CM 8.4.3 version will continue to be supported with CM 8.5 until EOS of CM 8.4.3

  - Media available in CM8.4.3 BOM only
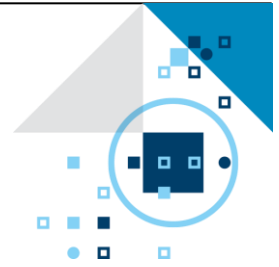
IBM Content Manager 8.5
Removals
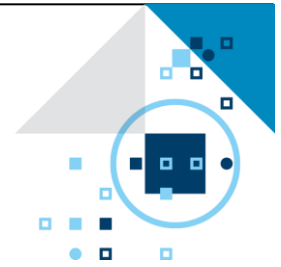
- **Features Removed**

  - Advanced Workflow, XML Schema Mapping, Servlets and UPES components

  - OnDemand SDK Support

  - Federated Connector, Database, and Administration client

  - Local InfoCenter

- **Superceded versions**

  - Windows XP, Vista, Server 2003, Solaris x86-64

  - DB2 v9.1, v9.5 on EE and DB2 v8 on z/OS

  - Oracle 10g Support

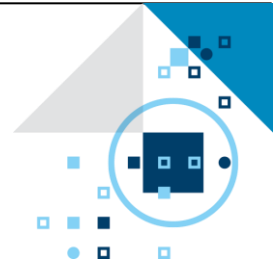 - WebSphere 6.1, 7.0

  - JRE 5.0

IBM Content Manager
Deprecations

- **Items available and supported in CM 8.5 but may be dropped in future release**

  - C++ API Support

  - DB2 NSE Support

  - Support for ImagePlus and VI/400 Connectors

End of service for Content Manager 8.4.x
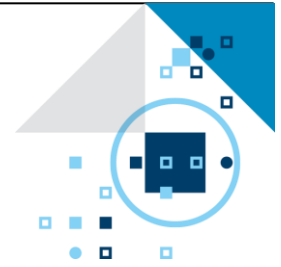
➢ **8.4.x EOS will be posted soon**

- 8.4.0, 8.4.1, 8.4.2 and 8.4.3 fall under the same support timeframe

- Already beyond the normal base support period for 5+3 year policy

- Sept 2015 under consideration

➢ **Upgrade planning**

- Path to CM 8.5 requires 8.4.3 to be applied

- Start planning for upgrade today!

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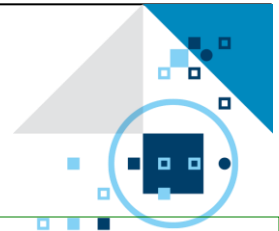
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