Infor Reporting Administration Guide

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Contents

About this guide

This guide describes how to perform setup and administration tasks for Infor Reporting.

Intended audience

This Administration Guide is for technical users who are responsible for security, maintaining the model, performance of running reports, and system maintenance.

Related documents

You can find these documents in the product documentation section of the Infor Xtreme Support portal:

- *Infor Reporting Hardware and Software Recommendations*
- *Infor Reporting Installation Guide*
- *Infor Business Vault Installation Guide for the Base Data Store*
- *Infor Reporting Installation Guide for the Base Data Store Reports*
- *IBM Cognos Business Intelligence Administration and Security Guide*
- *BM Cognos Business Intelligence Troubleshooting Guide*

Contacting Infor

If you have questions about Infor products, go to the Infor Xtreme Support portal.

If we update this document after the product release, we will post the new version on this website. We recommend that you check this website periodically for updated documentation.

If you have comments about Infor documentation, contact documentation@infor.com.

Overview

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Infor Reporting is a reporting environment that provides platform and reporting content for relational reporting. Infor Reporting is integrated with Infor Ming.le, and the user interface provides navigation to view and work with report content.

Infor Reporting includes templates that your professional report authors can use to build reports and provides components specific to your Infor business applications. Infor Reporting provides the platform and reporting content that is specific to your Infor business applications.

These are features of the Infor Reporting platform:

- A reporting environment that supports your reporting requirements for multiple Infor applications.
- Active Directory Federation Services (AD FS) security mode that uses claims issued through AD FS and Infor Federation Services (IFS).
- Active Directory (AD) security mode that uses attributes from AD and IFS through IFS Web Services.
- User interface that provides navigation to view and work with report content
- Integration with Infor Ming.leTM
- Templates that your professional report authors can use to build reports.
- Online help and documentation

These are components of Infor Reporting content that is specific to your Infor business applications:

- Reporting packages, folders, and reports
- Application-specific security roles
- Online help and documentation

Naming standards

This section describes the naming guidelines that are used within Infor Reporting for language and for folders.

Naming standards for language

Infor Reporting uses English Zimbabwe, EN-ZW, as the development language. All other languages, with the exception of English Botswana (EN-BW), can be translated. Security expects the EN-ZW format.

Naming standards for folders

This table shows the Infor Reporting folder structure:

(en-zw) Level 1	(en-zw) Level 2	(en-zw) Level 3	(en-us) Equivalent
i10r			Infor Reporting
	infor.ir		Business Vault
		AP	Accounts Payable
		AR	Accounts Receivable
		GL	General Ledger
		PA	Purchasing
		SA	Sales

Metadata reports

Infor Reporting provides a reporting package of the metadata model. This package provides a presentation view of the metadata model. Infor Reporting provides metadata reports about the structure and the data in the business vault. These reports include the mappings of XPaths to the physical database and the tables associated with each BOD (Business Object Definition).

The reports and the metadata package are located in the `MetaData` folder. You can use the metadata package to build custom reports.

These are the metadata reports that are provided with Infor Reporting:

- Noun Table Cross Reference

  This report provides a list of all nouns and the associated table. The tables are populated by the nouns. You can click a table name to launch the table and mapping information for the table.

- Table and Mapping Information

  This report provides table column information. You can run the report for a single table or multiple tables. This information identifies where elements in the BOD are stored in the database. These columns are contained in the report:

  - Table Name
  - Column Name
  - Column Type

    - Column Width
    - Primary Key
    - Can be Null
    - Shredder XPath
    - Custom Mapping
    - Schema Version
- Table and Shredder XPath Information

  This report provides Shredder XPath information by noun. These columns are contained in the report:

    - Table Name
    - Column Name
    - Shredder XPath
    - Customer Mapping

Lineage

You can use the lineage feature to identify the metadata of a data item in an HTML report. You can identify a report view back through the package and the data sources that are used by the package. Any data item filters that were added by the report author, or that were defined in the data model, are displayed. You can click a cell in a crosstab report to see how the cell value was calculated. This is helpful for troubleshooting your data when creating a new report.

You can view the lineage of the data item in the **Business View** or the **Technical View**. The business view shows high-level textual information that explains the data item and the package from which the data item comes. The technical view of the Lineage option provides a graphical representation of the Business Vault physical table and column name. If you view the lineage of an item in the package area, then you see the model properties of the item. If you view the lineage of an item in the Date Sources area, then you see the data source properties of the item.

The Lineage feature is available from the source panel in Report Studio. You can right-click a query item in the selected package to see the lineage information. To view the lineage information in an executed report, you can right-click a column of the report, and select **Lineage**.

Note: When accessing Infor Reporting through Infor Ming.le, report consumers must have their Pop-up Blocker disabled for the Lineage window to display.

Infor Reporting security

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Infor Reporting is a browser application. Communication is through Hypertext Transfer Protocol (HTTP) or Hypertext Transfer Protocol Secure (HTTPS). We recommend HTTPS communication because sensitive corporate data is communicated to the client workstation. Infor Reporting authorization uses claims.

Infor Federation Services (IFS) is required to provide security for Infor Reporting. The user interface (UI) provides a consistent method of centralized user management and claims generation. You can import users from Active Directory (AD). You can assign additional claim attributes, for example, accounting entities or application specific roles, or both. IFS provides an option to activate applications in Active Directory Federation Services (AD FS).

For more information about Infor Federation Services, see *Infor Ming.le Installation Guide for Standalone IFS*.

The Infor Reporting platform provides two security methods; Active Directory (AD) and Active Directory Federation Services (AD FS). Both use claims for requests. Active Directory Federation Services security uses AD FS for authentication and authorization and Active Directory security uses IFS.

Authorize a user the Infor Reporting application. The directory path that is displayed, and the capabilities and features that are allowed (Report Studio, Cognos Workspace Advanced) depend on the roles assigned to the user in IFS. A set of roles for each application delivering content is provided. Adding the application in IFS, generates the application-specific roles that you can assign to users. For example, adding the Infor Reporting application generates these roles:

- IR-BusinessVaultAdministrator
- IR-BusinessVaultConsumer
- IR-BusinessVaultAdvanced Business Author
- IR-BusinessVaultProfessional Author

These roles provide access to the Infor Reporting Business Vault content. When you install the Infor Reporting Business Vault content, the Business Vault roles are assigned to the associated Infor Reporting roles. Assigning the Business Vault roles to the Infor Reporting roles, allows the Infor Reporting capabilities and permissions to be inherited by the user assigned to the Business Vault role.

The Business Vault content is loaded into the `Public Folders\ Infor Reporting\Business Vault` folder structure. All roles have read-only access to the Business Vault folder. The administrator role has read and write access to the Infor Reporting and Public Folders. Other roles have read-only access.

Active Directory (AD) security

Active Directory security mode uses Integrated Windows Authentication and is domain centric. IFS validates the user claim and authorizes the user to the Infor Reporting application.

AD security requires that an IFS user be designated as **AttributeServiceCaller**. The **AttributeServiceCaller** role has log-in rights to IFS web services.

For AD security, you must set IFS Security Configuration Utility Security Mode to either Windows or SAMLToken Allowing Windows for web services.

Active Directory Federation Services (AD FS) security

Active Directory Federation Services security mode utilizes SAML token based authentication and is multi domain because it is AD FS based. AD FS validates the claim from the user and authorizes the user to the Infor Reporting application.

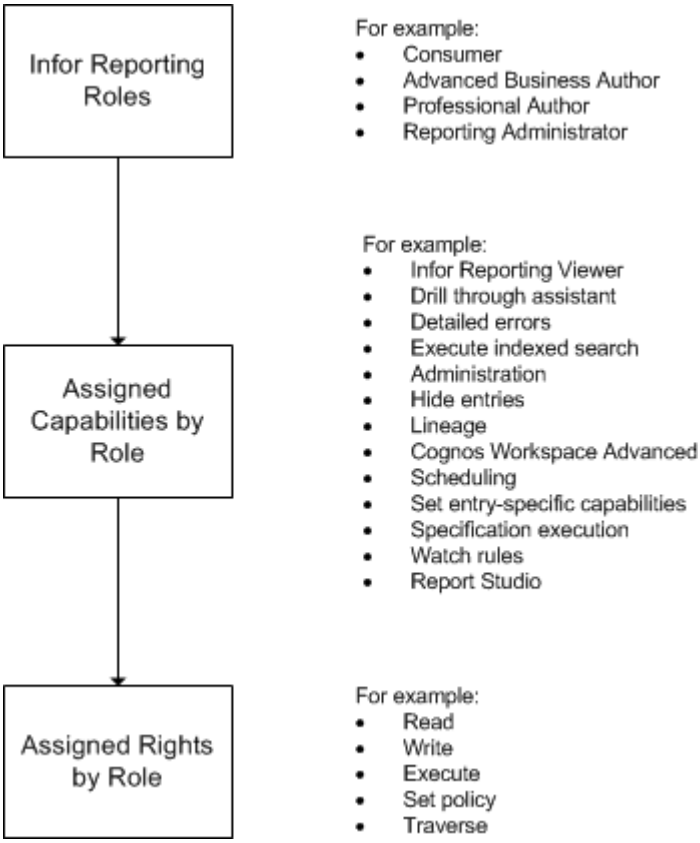
AD FS security requires Infor Federation Services, Microsoft Active Directory Federation Services (AD FS), and Windows Identity Foundation.

For AD FS security, IFS Security Configuration Utility Security Mode is set to either SAMLToken or SAMLToken Allowing Windows for web services.

Roles and capabilities

Infor Reporting uses roles and capabilities to assign and limit access to features and functions within the product. Generic roles are defined and delivered with Infor Reporting. These roles are attached to features or capabilities and certain rights or permissions are assigned to the role.

This diagram shows the roles and capabilities:



These are the roles provided in the Administration package:

Role ID	Name	Description
infor.irplatform.consumer	Infor Reporting Consumer	This user role has general access capabilities and lineage capabilities.
infor.irplatform.businessauthor	Infor Reporting Advanced Business Author	This user role is a member of the Infor Reporting Consumer role and inherits its capabilities. Additionally, this user has access to Cognos Workspace Advanced capabilities. When navigating Infor Reporting through the **Launch** option, Cognos Workspace Advanced is referred to as Adhoc Reporting.
infor.irplatform.professionalauthor	Infor Reporting Professional Author	This role is a member of the Infor Reporting Advanced Business Author role and inherits its capabilities. In addition, this user has access to Report Studio. When navigating Infor Reporting through the **Launch** option, Report Studio is referred to as Professional Reporting.

Role ID	Name	Description
infor.irplatform.administrator	Infor Reporting Administrator	This role can administer content, manage printers, and schedule activities and reports.

Capabilities by role

These are the capabilities and features allowed for each role:

Role	Role ID	Description	Rights and capabilties
Consumer	infor.ir.consumer	For users who run reports.	Run and schedule reports, interact with prompts, and output reports to other formats such as CSV, Excel, PDF, and XML. Set personal preferences such as language and time zone.
Advanced business author	infor.irplatform.businessauthor	For users who run reports and create ad hoc reports.	Inherits consumer capabilities and use of all rights that are defined for the consumer role. Access to Cognos Workspace Advanced to create and run ad hoc reports.
Professional author	infor.irplatform.professionalauthor	For users who create and test new reports.	Use of all rights that are defined for the consumer role. Use of all rights for the advanced business author role. Access to Report Studio to create and test new reports.
Administrator	infor.irplatform.administrator	For users who administer the Infor Reporting environment	Administer server, security, and report scheduling.

Understanding capabilities

Secured functions and features, also referred to as capabilities, control access to different administration tasks and functional areas in Infor Reporting.

The permissions of the user are established at log-in based on the role of the user in IFS. Depending on the permissions for the secured functions and features, the user can access specific components and perform specific tasks in Infor Reporting.

In Infor Reporting, the user can see their assigned role or roles and the capabilities available for the role. Select **My Area Options** > **My Preferences** > **Personal**.

Capability	Description	Features
Administration	Controls access to the administration pages. Use these pages to administer Infor Reporting.	• Access the **Administration** tab to administer exports, imports, index updates, consistency checks, and report updates. • Configure dispatchers and services, and manage the system. • Manage distribution lists and contacts. • Access and manage printers. • Access the scheduling functionality. • Access **Users, Groups, and Roles** to manage namespaces, users, groups, and roles in Infor Reporting.
Viewer	Controls access to the viewer that you can use to view reports.	• Use the context menu. • Change the default run options. • Select text in lists and crosstabs. • See the viewer toolbar.
Detailed errors	Controls access to view error messages.	Access to detailed error messages in the web browser.
Drill-through assistant	Controls access to the drill-through debugging functionality.	Access additional information in the **Go To** page for each drill-through target. This information is helpful to debug a drill-through definition.
Execute indexed search	Controls access to the search of indexed content.	Allows enhanced indexed search. When Execute Indexed Search is disabled, basic indexed search is provided. This secured function is not displayed until the Index Update Service has been started.
Hide entries	Controls access to the Hide option to hide entries and view hidden entries.	Allows the user to set the Hide option on an object so it is unavailable during normal browsing. To view these hidden objects, you can turn the option on preferences. You must be granted authority to the capability and you also require write authority to the report. The **Hide this entry** check box is displayed on the General table of the entries properties pages. The **Show hidden entries** check box is on the **Preferences** tab in user profiles. Additionally it is available on the **General** tab in **My Area Options** > **My Preferences**.
Lineage	Controls access to the Lineage action	View information about data or metadata items from the viewer of the source tree in Report Studio.

Capability	Description	Features
Cognos Workspace Advanced	Controls access to Cognos Workspace Advanced (formerly Business InsightAdvanced), to create ad hoc reports.	• Create new reports and use the **Save as** option for new reports and views. • Use advanced authoring features such as creating complex filters, formatting style, and multilingual support.
Report Studio	Controls access to Report Studio to author professional reports.	• Use the **Save as** option for new reports and create report views. • When authoring reports users can use the button, **HTMLItem**, and hyperlink elements of the report specification .
Scheduling	Controls access to the scheduling function.	Schedule items that can be run, such as reports.
Set entry-specific capabilities	Allows a user to set up capabilities at an entry level.	The **Capabilities** tab appears in the Set properties pages for packages and folders. It is available for users that have this capability, have set policy permissions for the entry, or own the entry.
Specification execution	Allows a user to use inline specifications internally to perform tasks.	
Watch rules	controls access to the **Rules** tab in My Watch Items.	Create and run watch rules.

Configuring Infor Reporting

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You can configure your Infor Reporting environment. For example, you can resize the search and select prompts, reset the default time zone, and load your company logo.

Resizing the search and select prompts

You must modify the `properties.js` object so that the search and select prompts are dynamically re-sized in the display area.

1. On the Gateway server, right-click **Notepad** and select **Run as Administrator**.
2. Browse to the object location in `C:\Program Files\Infor\Infor10 Reporting\platform\webcontent\prompting` and open the `properties.js` object.
3. Specify this information:

   SYSTEMPROPERTY_CSEARCH-AUTO_RESIZE-RESULT-LIST=TRUE
   Specify **TRUE** in the variable to ensure that all search and select prompt display areas are dynamically re-sized.

4. Save the file.

Changing the default server time zone

The default time zone for Infor Reporting is the time zone of the operating system on the Content Manager server. You can set Scheduled activities for the time zone.

1. On the Content Manager server, select **Start > Infor Reporting > Infor Reporting Configuration**.
2. Select **Actions > Edit Global Configuration**.
3. Select the **General** tab.
4. Click **Value** for **Server time zone** and select a time zone from the list.
5. Save the file.

Specifying a personal default time zone

1. Select the **My Area Options** icon on the Infor Reporting navigation bar.
2. Select **My Preferences**.
3. On the **General** tab, select the desired time zone.
4. Click **OK**.

Changing the report header background

All Infor Reporting templates use the common layout reference that defines the background gradient for each report header.

You can change the background by replacing this file with a file that contains your background. The default file size for the background is *background_45.png = 1 x 45 px*.

1. Select this folder: .

   `C:\Program Files\Infor\Infor Reporting\platform\webcontent\infor\images`.

   The `C:\Program Files\Infor\Infor Reporting\platform\webcontent` portion of this file path is set during installation.
2. Add your `background.png` file to the folder.
3. Rename the **background_45.png** as **background_45_old.png**.
4. Rename your new background file to **background_45.png**.
5. To review the path component layout reference that is used by the Infor Reporting templates, select **Public Folders > Administration > Infor Layout Common Reference**.

Monitoring and tuning performance

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Over time an Infor Reporting environment changes. User populations grow, processing requests increase in number and complexity, and network capacity and other aspects of infrastructure can be modified. These changes can affect Infor Reporting performance. Therefore, you must monitor and tune performance regularly.

Monitoring performance means regularly checking the status of your Infor Reporting installation and its resources. Infor Reporting provides metrics for checking the performance of the system, servers, dispatchers, or services. You can set thresholds for metrics to identify when the performance exceeds or falls short of expected ranges. You can configure the system to notify when a performance issue occurs.

Tuning involves adjustments in the these areas:

- Keep databases optimized for querying and reporting.
- Adjust application server memory and connection settings as required for better performance.
- Tune web server for maximum performance.
- Monitor and tune various aspects of your Infor Reporting system.
- Modify PDF rendering settings
- Change low bandwidth connections
- Perform regular disk maintenance

After a certain point, performance tuning efforts yield diminishing returns. A growing user population, and increased processing demands, eventually requires that you consider increasing system capacity. To improve Infor Reporting performance, you can scale vertically with more powerful servers. To scale horizontally, you can add servers and balance the processing load among your servers.

Monitoring system performance metrics

You can use metrics to monitor current system performance. You can assess the status of the system, and the status of individual servers, dispatchers, and enabled services.

Metric type	Monitors:	Collected by:
Session metrics	Monitors the number of sessions in your system.	Collected by Content Manager.
Global queue metrics • JobQueue • SMTP Queue • Task Queue	Identify that requests are waiting too long in a queue for processing.	Collected by the monitor service.
Service queue metrics	Identify that requests are waiting too long in a queue for processing.	Collected by individual services
JVM metrics	Status information such as the length of time a JVM in the Infor Reporting environment has been running and how much memory it is using.	Collected by the JVM.
Service request metrics	Monitor processing times, volume of requests, operational status of services, and response times.	Collected by the dispatcher that manages the service.
Report service metrics	Monitor report service processes.	Collected by the dispatcher that manages the report service.

The availability of a metric depends on the resource with which the metric is associated. Some metrics are available for the system, servers, dispatchers, and services. Other metrics can be available for only a subset of these resources.

See the *IBM Cognos Administration and Security Guide*.

Threshold values

You can define the threshold values. The values determine whether the status for a resource indicates a green indicator for excellent performance, a yellow indicator for average performance, or a red indicator for poor performance. There are no default threshold values. If you define thresholds, then the values are stored in the content store.

You can create an agent that monitors the metrics and notifies you when threshold values are exceeded. For example, you can create an agent that sends you an email when a threshold value is exceeded. When a threshold is exceeded, the dispatcher writes an entry to the logging database.

Tuning the database

The data source that is used by Infor Reporting is usually a relational database management system such as IBM DB2, Microsoft SQL Server, or Oracle. To ensure that Infor Reporting continues to perform well, you must maintain the performance of your database.

Optimize your database for querying, reporting, and analyzing. If Infor Reporting and other applications demand more of a database than it can provide, or queries are too large for a database to handle efficiently, then you can experience increased response times and degradation in performance and scalability. For information about tuning your database, see your database documentation.

See the *Infor Reporting Installation Guide* for supported relational database management systems.

Tuning the application server

The Infor Reporting Java application server contains the Content Manager servlet and dispatcher servlet. Tomcat is installed as the default application server for Infor Reporting. You can configure Infor Reporting to use another Java application server.

Regardless of the application server that you use to enhance and maintain Infor Reporting performance, you should monitor memory settings and connection limits. Tune them based on Infor Reporting usage.

Changing memory settings

The memory settings of your application server dictate the memory that is available to Infor Reporting dispatchers and services managed by the Java servlet.

In the Infor Reporting Configuration, the default memory allocation is 768 Megabytes. If you expect to have many users and report requests, then you can increase the memory allocation.

The memory allocation strategy for your application server depends on the available capacity of your resources. Additionally, it depends on the resource needs of other applications running on the server.

We recommend that you configure your application server with a minimum of 512 Megabytes of memory for multi-user applications. You can reduce application server memory to 256 Kilobytes, but you should only consider this for single users, or for proof-of-concept or demonstration applications.

Setting connection limits

For the Infor Reporting dispatcher to service the expected number of requests, you must configure the connection limits of your application server. Depending on your application server, connections can be referred to as threads. The setting that you apply determines the number of available connections, or threads, that can be handled simultaneously by the application server process.

To configure Apache Tomcat connection settings, use the `\conf\server.xml` file in the Tomcat directory in your Infor Reporting installation location. Infor Reporting uses the settings for the coyote connector.

If the value of this application server setting is too low, then users can encounter difficulties when making Infor Reporting requests. You should monitor the application server process and its use of connections.

Tuning the web server

The default Infor Reporting gateway is CGI, which can be used with all supported web servers. For improved performance, consider using a scalable gateway such as Apache mod for Apache and IBM HTTP servers or ISAPI for IIS web servers.

For information about web server scalability in Infor Reporting, see *Infor Reporting Hardware and Software Recommendations*.

For information about tuning your web server, see its documentation.

Guildines for tuning Infor Reporting

Follow these guidelines:

- Design reports with performance in mind.
- Configure Infor Reporting dispatchers and services for performance.
- Schedule jobs to make the best use of system resources.

Setting the query processing type

For relational metadata, you can improve performance by selecting the type of query processing for your business. There are two types of query processing:

- Limited local

  The database server does as much of the SQL processing and execution as possible. Some reports or report sections use local SQL processing.

- Database only

  The database server does all the SQL processing and execution. An error is displayed if any reports or report sections require local SQL processing.

Although the database server can usually run the SQL and run reports much faster, local processing is sometimes necessary. For example, choose limited local processing to create cross database joins. Additionally, choose limited local if you want report authors to use unsupported SQL99 functions.

Some complex queries such as a query that must generate an At clause to avoid double-counting, require limited local processing. In this case, the query uses limited local processing even if the package was published with database only processing.

Tuning dispatchers

Infor Reporting dispatchers manage the distribution of requests. You can monitor Infor Reporting dispatchers by using administration options.

In a distributed Infor Reporting environment, there are two or more servers. Each server has a dispatcher to manage the Infor Reporting request flow. The dispatcher is responsible for routing requests to the services that are configured on a particular Infor Reporting server.

You can configure an Infor Reporting server to handle a specified proportion of requests. This is important if you have servers of different capacity and must make granular changes to specific servers in your environment

Setting the process capacity

Each Infor Reporting dispatcher is assigned a process capacity. The process capacity dictates the number of requests that will be handled by a server. By default, request distribution uses a weighted round-robin algorithm that distributes requests equally among all configured dispatchers. In this case, the process capacity for each dispatcher is assigned a weight of 1.0.

You should configure the process capacity according to the relative performance of each server. For example, consider a two-server topology. If all other variables are constant, then a quad-processor server should be configured with a processor capacity of 2.0. Additionally, configure a dual-processor server given a processing capacity of 1.0. This indicates that in the two-server topology, one server receives twice the number of requests as the other.

See the *IBM Cognos Business Intelligence Administration and Security Guide*.

Specifying advanced dispatcher routing

Depending on how your system is set up, you can control how reports are distributed among servers. You can distribute reports if you have different departments that maintain their own servers. Additionally, you have specific servers set up for specific data access, such as Microsoft Windows operating system

servers for Microsoft SQL Server databases and Linux operating system servers set up for DB2 access. You can set up Infor Reporting so that report requests are processed by specific servers by applying routing rules to specific packages, groups, and roles.

See the *IBM Cognos Business Intelligence Administration and Security Guide*.

Tuning the report, batch, and report data services

The report service, batch report service, and report data services have several settings that you can use to optimize how resources are used.

There are many processes associated with the report service and the batch report service. When these services receive requests from the dispatcher, they start processes to handle the requests. You can specify the maximum number of processes that these services can start at any one time.

The number of processes should be configured based on the amount of available capacity provided by Infor Reporting servers. In general, report processing is a CPU-bound process. Therefore, the number of CPUs in a server, and the clock rates of those CPUs, are the main variables when you adjust this setting from the default value of 2.

A server with four available CPUs should be configured to use more batch report service processes than a server with only two available CPUs. If you have two servers with an equal number of CPUs, then the server with a significantly faster CPU clock rate should be configured to use more batch report and report service processes. For the report data service, you can specify the maximum report size that can be sent.

See the *IBM Cognos Business Intelligence Administration and Security Guide*.

Setting affinity connections

You can specify the maximum number of high affinity and low affinity connections that the dispatcher can open to handle requests.

See "Setting high affinity connections" on page 24 and "Setting low affinity connections" on page 25.

Setting high affinity connections

A high affinity connection is used to handle a high affinity request, and each connection handles one request at a time. A high affinity request is a transaction that can benefit from a previously processed request. It can be processed on any number of servers. Resource consumption is minimized if the request is routed back to the report service process that was used to execute the original process.

Each report process has a configurable number of high affinity connections. Set the number of high affinity connections based on the number of low affinity connections that are set for each report process, and the capacity required for other services on the same server.

The distribution decision between high and low affinity connections per batch report process should be a function of the anticipated distribution of request types. For example, an HTML reporting application may have a greater likelihood of high affinity requests than a PDF reporting application. The page down request for an HTML report uses a high affinity connection whenever possible.

In general, the number of batch report service and report service processes should be the primary parameter to be optimized when deploying an Infor Reporting application. After system resource use is configured to operate efficiently, the number of affinity connections can be tuned for further optimization.

Note: If the number of affinity connections per process is set too high, then the process can be overburdened with managing connections. This configuration will result in competition for system resources, and requests will take longer to complete due to inefficient use of server resources.

These are examples of high affinity connections:

- Report Viewer links
- Run again
- Return
- HTML report navigation
- Top page
- Page up
- Page down
- Bottom page
- Delivery options
    - Save
    - Save as
    - Print
    - Email
    - Viewing

For more information about affinity see the *Infor Reporting Hardware and Software Recommendations*.

For information about setting affinity connections, see the *IBM Cognos Business Intelligence Adminstration and Security Guide*.

Setting low affinity connections

A low affinity connection is used to handle a low affinity request. Each connection handles one request at a time. A low affinity request will operate just as efficiently on any server.

Both the report service and batch report service are capable of handling low affinity requests. Low affinity requests that have been initiated by scheduled activity will make use of the low affinity connections configured for a batch report service. Low affinity requests that have been initiated by user-driven activity will make use of the low affinity connections configured for a report service.

Each report and batch report process has a configurable number of low affinity connections. The number of low affinity connections per report service process should be set in coordination with the settings specified for the batch report service.

These are examples of low affinity activities:

- Report querying
  - Reporting
  - Report processing
- Report authoring
  - Metadata retrieval
  - Query validation
- Administrative
  - Testing data source connection
  - Adding objects such as folders, jobs, and schedules
  - Refreshing portal page

For more information about affinity, see the *Infor Reporting Hardware and Software Recommendations*.

For information about setting affinity connections, see the *IBM Cognos Business Intelligence Adminstration and Security Guide*.

Best practices for scheduled reporting

The Infor Reporting architecture differentiates between the processing of interactive and non-interactive requests. All requests that are initiated through user activity are processed by the report service. Scheduled or event-driven activity is processed by the batch report service.

Scheduled reporting is a critical aspect of any large-scale enterprise reporting solution. The effective management of low or non-interactive usage time periods, in combination with an organization's data refresh cycles, provides an opportunity for administrators. You can prepare as much information as possible during off-peak times for later retrieval by the greater business intelligence user community.

Using jobs to schedule reports

Reports can be scheduled on an individual basis. If you have many reports to schedule, then you can use jobs to execute scheduled activities.

A job is a container of scheduled processing activities that operates in a coordinated manner. Instead of scheduling individual reports, a job is used to execute multiple reports. Each activity within a job is given a sequence ordering, which is based on how the job was selected.

Execution strategies:

- All at once

  All activities in a job will execute simultaneously. You can use this when the number of activities within a job (or multiple jobs) is less than the total number of low affinity connections available during the execution period.

- In sequence

  The activities in a job will execute individually, based on their sequence ordering. You can use this when the number of activities within a job (or multiple jobs) is more than the total number of low affinity connections available during the execution period. Batch report throughput can be maximized by setting an equal number of jobs as available for low affinity connections. The number of activities per job can be set up so that the total number of activities results in the completion of the batch reporting requirements.

Using job and scheduling service

All scheduled activity is managed by the job and scheduling service. The job and scheduling service is directly related to the batch report service, and should be considered in tandem with that service.

Options for the job and scheduling service:

- **Maximum Jobs During Non-Peak Period**

  This provides a configurable limit to the number of jobs that can simultaneously execute during the specified non-peak period range.

- **Maximum Jobs During Peak Period**

  This identifies a configurable limit to the number of jobs that can simultaneously execute during the specified peak period range. If an application does not perform scheduled activity during the specified peak period range, then this setting is not applicable.

See the *IBM Cognos Business Intelligence Administration and Security Guide*

Report bursting

Report bursting produces a set of reports containing personalized content that is based on a common report definition. Bursting performs a single execution of a report. The content is sectioned as required, based on security access. The sections are distributed to the appropriate users based on report content.

Bursting is a critical aspect of any large-scale enterprise reporting solution. The effective management of low or non-interactive usage time periods, in combination with an organization's data refresh cycles provides an opportunity for administrators to prepare as much information as possible for later retrieval by the user community.

Reporting streamlines information distribution. A report is created once, and separated into multiple filtered report outputs that contain individualized content.

Report bursting offers scalability benefits and helps in the effective management of resources. It also reduces network traffic, minimizes database queries, and enables Infor Reporting to process multiple personalized reports in parallel.

PDF rendering settings

You can change PDF rendering settings to improve response time. If a user views a one-page document on an idle system, then the CPU time is often less than one second. PDF files vary in size. Response time is limited by your network speed.

Options:

- Disable font embedding

  Embedding fonts can add 100 Kilobytes or more to each report. Where connection speeds are 56 Kbps or less, turn off font embedding.

- Avoid uncommon fonts

  When you disable font embedding, report authors should avoid using fonts that report consumers do not have. If report consumers do not have the font set used by report authors, a default font is substituted.

- Enable linearized PDF documents

  You can enable linearized PDF viewing, known as byte serving. This delivers documents to users as the pages become available. This is enabled by default in the PDF rendering settings and Adobe Acrobat Reader.

See the documentation provided with Adobe Acrobat.

Changing the default PDF file name when saving a report

If you save a report as a PDF file from within the Adobe browser plug-in, then the report name is set as the PDF file name. Adobe sets the name of the file and ignores the report name.

1. Select the report and click **Run with Options > PDF > Save the report**.
2. Select **View report output versions**.
3. To download the file with the report name as the PDF file name, select one of these options:
   - Click the **Download** icon under **Actions**.

- Click the **PDF** icon to open the report in the Cognos Viewer. Select **Keep this version > Download the report**.

4 Optionally, you can disable the Adobe plug-in allow the Adobe Reader to open on the desktop.

Low bandwith connections

If users access Infor Reporting using a dial-up connection, then you can change the PDF rendering settings to improve performance.

You can reduce default page sizes in Report Studio. In heavy volume installations, the amount of HTML generated can be high. To improve performance, lower the default page size. This reduces the amount of HTML initially passed back to the web server and to your users.

Maintaining disks

Over time, data on a physical disk becomes fragmented, which can cause performance degradation when writing to or accessing from the disk. Disk defragmentation should be a regular system maintenance activity.

Monitoring servers

You should conduct regular and targeted monitoring of the Infor Reporting servers. You can assess the occurrence and the effect of paging, memory use, and other measures of an efficient system.

Using temporary space for servers

Depending on the type and amount of activity, Infor Reporting servers use a variety of directory access. For running reports, Infor Reporting servers frequently use temporary space. The Infor Reporting temporary space should be hosted on a physical disk that is separate from other Infor Reporting directory locations. This configuration maximizes parallel disk access and avoids the unnecessary sequential access that is common when only a single disk device is used.

Reducing disk use

Depending on the size of reports and the amount of available memory, Infor Reporting can access a physical disk when processing reports. To improve performance, ensure that report processing uses available memory rather than disk space.

To use memory instead of disk space is beneficial when temporary files are created on Infor Reporting servers. This causes information transfer from memory to disk. You can monitor the occurrence of temporary files by using the `c10_location\temp` directory. Monitor this folder during report processing periods to determine if temporary files are created as `cclvpage*.tmp`.

To ensure that Infor Reporting uses memory instead of disk space, edit the `VirtualMemory Diagnostics` property to use unlimited memory (value = 2) instead of limited memory (value = 0). The property is located in the `rsvpproperties.xml file`:

- `<property>VirtualMemoryDiagnostics</property>`
- `<value type="long">2</value>`

Note: Remove the comment to enable the `VirtualMemoryDiagnostics` property.

Advanced report processing configuration settings

By default, Infor Reporting is configured to process reports using a standard model applicable to all applications. You can change the default processing behavior for the Infor Reporting server by modifying entries in the `rsvpproperties file.`

See "Setting rsvpproperties.xml properties" on page 30.

Setting rsvpproperties.xml properties

The `rsvpproperties.xml.sample` file is located in the `c10_location/configuration directory`. Depending on your specific Infor Reporting application, you can change settings in the `rsvpproperties.xml` file to improve performance.

To enable the `rsvpproperties.xml.sample` file, you must rename the file `rsvpproperties.xml` and restart Infor Reporting. You must perform this activity on all Infor Reporting servers.

Because the settings in the `rsvpproperties.xml` affect your configuration, use caution when you change these values.