



Distribution Server for Crystal Enterprise 9

Installation & Administration Guide

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OVERVIEW

The purpose of *Distribution Server 9* is to add additional specific functionality to Crystal Enterprise 9:

- report processing failure email notification
- success email notification with url link
- email notification on 'report alert'
- secure and unsecure notification
- run the report as an rpt AND email it as content
- run the report as an rpt AND email it as xls/pdf/doc/etc
- run the report as an rpt AND send it to network file location
- run the report as an rpt AND send it to printer
- file destination with formats xls, doc, etc.
- file destination with formats html, dhtml
- distribution to destinations only if a 'report alert' exists
- apply a workflow report approval procedure, then distribute

Distribution Server provides an easy way to add extended capabilities to a standard Crystal Enterprise 9 ePortfolio system. Additional customization is easily accomplished following ePortfolio guidelines. *Distribution Server* utilizes its own COM object (WebAgentCE.dll) for its functionality.

WORKFLOW REPORT APPROVAL

Distribution Server 9 provides the optional capability to schedule reports with a "Set Approval Process" setting. Scheduling a report in this way creates a workflow approach to reporting that involves the following steps:

- a) Schedule a report with 'Set Approval Process" set to Yes.
- b) The resulting report is 'hidden' from regular users and will not appear on the History screen. Only users who are members of the ApprovalGroup (see 'Demo CSP Pages' section, APOConst.csp settings) and Administrators have access to instances in this 'to be approved' state.
- c) ApprovalGroup users and Administrators may access these 'to be approved' instances, in one of two ways. To review and approve/delete unapproved instances from all folders, use the Workflow button on the main page (available.csp). To simply see the instances for one report, see the History page for that report.

REPORT DISTRIBUTION LICENSING

Distribution Server provides the capability to create an 'information delivery system' that may require a report distribution license from Crystal Decisions. An 'information delivery system' is defined as any automated process that is used to automatically deliver reports to more than 50 users. For additional information, please contact Crystal Decisions or refer to the following:
<http://www.crystaldecisions.com/products/crystalreports/licensing>

COMPONENTS

Distribution Server is comprised of 2 software components, as follows:

- a) Distribution Server Manager is the control centre, much like the APS for Crystal Enterprise. It should be installed only once per Crystal Enterprise system. If you are installing *Distribution Server* for the first time, this component must be installed. Distribution Server Manager has its own maintenance screen to manage its configuration.

- b) *Distribution Server* is the workhorse component and is responsible for generating output files. If you require an additional instance of *Distribution Server* on a different computer, simply run set-up again on that computer and do not check the Distribution Server Manager checkbox. *Distribution Server* has its own maintenance screen to manage its configuration.

DEMO VERSION LIMITATIONS & LICENSING

After downloading the demo version of *Distribution Server*, a demo license is required to deploy it. Just email a request to apos@apos.on.ca for a demonstration license and the CSP pages necessary to implement the demo version.

ENVIRONMENT REQUIREMENTS

Distribution Server normally co-exists on any server that has Crystal Enterprise components installed.

Alternatively, *Distribution Server* may be installed on any computer that has network access to the Crystal Enterprise environment, although some Crystal Enterprise components must be installed first, see the 'Installation Steps' section.

OPERATING SYSTEM REQUIREMENTS

Windows NT v.4 SP6, Windows 2000 (SP1 or greater) or Windows XP

DATA CONNECTIVITY REQUIREMENTS

Windows Installer for Windows NT (Windows NT only)

MAIL SERVER REQUIREMENTS

Any mail server that supports SMTP communications.

CRYSTAL ENTERPRISE SERVER REQUIREMENTS

Functioning Crystal Enterprise v.9 system

END USER REQUIREMENTS

Crystal Enterprise 9 standards.

CITRIX AND TERMINAL SERVER

Do not install *Distribution Server* on a computer that is running Citrix or Terminal Server.
Please contact APOS Systems Inc. for advice on how to proceed.

INSTALLATION STEPS

Note - *Distribution Server 9* is normally installed on a computer that has all the Crystal Enterprise components installed on it. Please call for advice if your configuration is different.

Note - if you are not installing all the components of the distribution server on your WCS machine or if you have more than one WCS machine, please refer to the section "Installing Components on Multiple Machines".

Note - installing *Distribution Server 9* does not make any ePortfolio changes - see the next section for instructions on how to change ePortfolio after installing *Distribution Server 9*.

Please follow these steps to install *Distribution Server 9*:

- a) Obtain a demo license and csp pages from apos@apos.on.ca
- b) Ensure that the computer is running Windows NT SP6 or Windows 2000 SP1/2 or Windows XP.
- c) Ensure that the current computer user has Administrator rights for the computer where you are installing *Distribution Server 9*.
- d) Stop all unneeded applications, virus scan utilities, etc.
- e) If the computer is running Windows NT SP6, download Windows Installer for Windows NT from the Downloads section of www.apos.on.ca and save it to your local system environment and then run it.
- f) Skip this step if you are installing *Distribution Server* on a computer that already has Crystal Enterprise installed. Otherwise, using your Crystal Enterprise installation CD, select Custom installation and install ONLY Crystal Publishing Wizard, Custom Charting and Mapping Support. Make sure to disable the other options - Servers, Data Access, etc.
- g) Download the Distribution Server 9 Demo set-up program from the Downloads section of www.apos.on.ca and save it to your local system environment.
- h) Run the setup program (DistributionServerCE9Setup.exe) - it requires a password: distsv9

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- i) The setup program may require a system reboot when it finishes. Rebooting is recommended, in order to ensure that all services have restarted, etc.
- j) After the setup is completed successfully, replace the apos.lic license file in the directory where you installed *Distribution Server 9*, using the one provided.
- k) From the Start menu, run Distribution Server Configuration, complete and test all elements. Make sure the Other | Email Link reflects the URL that should be included in the email link for report viewing. If you do not need a custom page replace the word localhost with the path to your ePortfolio web site.
- l) Create a Windows user account for *Distribution Server 9* with local administrator rights and network rights to access printers and file servers. This is required to allow *Distribution Server 9* the rights necessary to access network printers, network file locations, etc.
- m) In Services, assign the new user account to the Distribution Server service and the Distribution Server Manager service and set both to Automatic if desired (recommended).
- n) Start the Distribution Server and Distribution Server Manager services.
- o) You are now ready to make changes to ePortfolio to add *Distribution Server* capabilities, please follow the instructions in one of the following two sections, depending on whether or not you want to implement Workflow Report Approval.

CHANGING EPORTFOLIO WITHOUT WORKFLOW REPORT APPROVAL

- a) Locate and backup the schedule.csp and history.csp pages provided with ePortfolio. Typically, these pages can be found at:..\Program Files\Crystal Enterprise\Web Content\Enterprise9\ePortfolio\en\.
- b) Copy the following supplied files into the above ePortfolio directory. See the notes in the 'Demo CSP Pages' section for an explanation of what these files are designed to do:
schedule.csp
history.csp
APOSConst.csp
- c) Run ePortfolio and test the *Distribution Server* functionality using the Extended Options choice on the Schedule page.

CHANGING EPORTFOLIO WITH WORKFLOW REPORT APPROVAL

a) Locate and backup the schedule.csp, history.csp, and available.csp pages provided with ePortfolio. Typically, these pages can be found at:..\Program Files\Crystal Enterprise\Web Content\Enterprise9\ePortfolio\en\.

b) Copy the following supplied files into the above ePortfolio directory. See the notes in the 'Demo CSP Pages' section for an explanation of what these files are designed to do:

schedule.csp

history.csp

APOSConst.csp

available.csp

ManageApproval.csp

clearFailed.csp

c) Run ePortfolio and test the *Distribution Server* functionality using the Extended Options choice on the Schedule page.

EMAIL AS CONTENT, NETWORK FILE LOCATION AND EMAIL ATTACHMENT

After *Distribution Server* is installed and working, you may wish to utilize *Distribution Server* for additional capabilities such as:

- File - HTML
- File - DHTML
- Email Content - HTML
- Email Content - DHTML
- Email Content - Text
- Email Content - XML
- Email - DOC*
- Email - PDF*
- Email - RTF*
- Email - TXT*
- Email - XLS*
- Email - CSV*

* These options cause the report to be run in rpt format for History viewing with an additional step that converts and emails the rpt file in the selected format.

If you wish to utilize any of the above additional destinations, please follow these steps:

- a) Install Crystal Reports 9 Developer Edition.
- b) Edit the APOSConst.csp page provided with *Distribution Server* that typically can be found at:...\Program Files\Crystal Enterprise\Web Content\Enterprise\ePortfolio\en\
Change the setting for Show Additional Destination to enable this feature.

DEMO CSP PAGES

The following CSP pages are included:

[schedule.csp](#)

This page is a replacement for the standard schedule.csp page as provided with Crystal Enterprise ePortfolio. The code changes can be easily located, just examine the 8 sections between 'APOS Start Change' and 'APOS End Change'.

[history.csp](#)

This page is a replacement for the standard history.csp page as provided with Crystal Enterprise ePortfolio. It has been changed to include links to Distribution Server history and recurring information. The code changes can be easily located, just examine the 10 sections between 'APOS Start Change' and 'APOS End Change'.

[APOSConst.csp](#)

This is a new control page for Distribution Server and should be edited using a simple editor like Notepad if you need to alter these settings. Please treat this page like a normal CSP page, make sure not to change its content other than the characters between the " symbols.

```
<%  
//Set The approval Group for workflow  
var APOSApprovalGroup = "ApprovalGroup";  
//Set the administrator account information  
var AdminUser = "Administrator";  
var AdminPwd = "";  
var AdminAuth = "secEnterprise";  
//Set the name of the APOS folder for business calendars  
var APOSFolder = "Business Calendars";  
//Show business calendars - 1 = Yes, 0 = No  
var APOSShowBusCal = 0;  
//Show Additional Destination - 1 = Yes, 0 = No  
var APOSShowAddDest = 0;  
//Show Events Dialog - 1 = Yes, 0 = No  
var APOSShowEvents = 0;  
%>
```

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The content of this APOSConst.csp page is as follows:

APOSApprovalGroup - the name of the User Group that has 'Approval' rights. Only users in this group will have access to the approval screen where report instances can be approved for release. This setting is only required if Workflow Report Approval is being implemented.

AdminUser - the name of a user with Crystal Enterprise Administrator rights, *Distribution Server* uses this user for its interactivity with Crystal Enterprise.

AdminPwd - the password for the AdminUser.

AdminAuth - secEnterprise, secWindowsNT, secLDAP, etc. based on which login method your Crystal Enterprise system is using.

APOSFolder - the name of the Crystal Enterprise folder where business calendars are stored. This setting is only required if APOS Business Calendars are being used.

APOSShowBusCal - a flag to indicate whether business calendars should be displayed to users on the Schedule.csp page. This setting is only required if APOS Business Calendars are being used.

APOSShowAddDest - a flag to indicate whether the Additional Destinations section should be displayed to users on the Schedule.csp page.

APOSShowEvents - a flag to indicate whether the Events page should be allowed to users on the Schedule.csp page.

[available.csp](#)

This page is a replacement for the standard available.csp page as provided with Crystal Enterprise ePortfolio. The code changes can be easily located, simply examine the small section between 'APOS Start Change' and 'APOS End Change'. This page is only needed if Workflow Report Approval is being implemented.

[ManageApproval.csp](#)

This is a new page that lists all report instances that are waiting for approval and allows an authorized user to multi-select instances and approve or delete them. This page is only used if Workflow Report Approval is being implemented.

[clearfailed.csp](#)

This is a new page that is used whenever Clear Failed is selected from the ManageApproval.csp page. This page is only used if Workflow Report Approval is being implemented.

TIPS ON FIRST TIME USE OF DISTRIBUTION SERVER

- a) After starting both the Distribution Server and Distribution Server Manager services, run ePortfolio, pick a very simple report and select Schedule.
- b) From the Schedule screen, select Extended Options from the Customize your options drop down box. This will display the *Distribution Server* Extended Options screen.
- c) In the Email Link Notification section, enter the e-mail address of the person that will receive notification of a successful scheduled instance. You will also be able to choose whether a login is required to view the report instance or if the report is only to be scheduled on the existence of an alert in the resulting report.
- d) In the Failure Email Notification section, enter the e-mail address of the person who will receive an e-mail notifying them if this scheduled report request fails.
- e) Click Update to save your entries and then click Schedule.
- f) From the History page you will be able to see all the instances scheduled using a *Distribution Server* function or just with Crystal Enterprise. The way to determine if a report was scheduled with *Distribution Server* is the Status column - if a '-', '+' or '!' follows the status then the instance was scheduled by *Distribution Server*.
These codes mean:
 - Extended Option Pending
 - + Extended Option Successful
 - ! Extended Option Failed
- g) By clicking the status keyword like Success, for example, you will see another screen pop up with all the information about that instance, such as Status, External Destination, Creation Time, Start Time, End Time, Server Used, Success Email, Login Required, Only On Alerts, Failure Email, Notification Time, Distribution Server, Set Approval Process, Approval Updated, Approved By, Business Calendar ID, Report Bursting Info and Error Message.

INSTALLATION TIPS AND TRICKS

A few general tips and tricks regarding installation and browsing reports with a Web browser . . .

NT / WIN 2000 ADMINISTRATOR RIGHTS

You MUST have Administrator rights to run the setup program successfully. Make sure you've logged onto NT/W2K as a user with Administrator rights or else the setup program may be denied the right to replace some core DLL's, etc.

INSTALLATION LOG

Installing *Distribution Server* creates an Install.log file in the directory chosen as the main program location during setup. This log file can be reviewed with any editor to see a complete log of the installation process, including all dll's installed or bypassed due to version checking being performed. Please check this log file if you require any information on what files the setup procedure actually installed. If you need to contact APOS Systems Inc. for installation help please include this log.

BACKUP DURING INSTALLATION

Installing *Distribution Server* checks the version and date of a number of critical files and if appropriate will replace and try to register them automatically. Any files that are replaced during installation will be copied to a \Backup directory within the directory chosen as the main program location during setup. Please check this directory to see what files have been replaced. This step is provided to ensure that you have a copy of any older dll's, etc. that have been replaced in case you need them for some reason.

REBOOT DURING INSTALLATION

Some computers have older versions of some system dll's that cannot be updated without a reboot. If installing *Distribution Server* tries to replace such a file, Windows will force you to reboot your computer before continuing. If you are asked to reboot, simply run the setup again after the reboot. Make sure that you stop IIS (NT only) if you must rerun the setup after a reboot.

CLOSE ALL WINDOWS APPLICATIONS

You must make sure that no other Windows applications are running before starting the setup program. This is because the setup procedure may try to update some core Microsoft DLL's, etc. that could be in use by other applications. Also, make sure that any background programs like Viruscan utilities, etc. are not running before starting the setup program for the same reason.

COMMAND LINE EXECUTION

Distribution Server can be run in various ways from the Run command line in Windows, as follows:

.. /APOSDistSvr9.exe /?	List run time options available
.. /APOSDistSvr9.exe /Setup	Run Configuration
.. /APOSDistSvr9.exe /App	Run as an application
.. /APOSDistSvr9.exe /I	Install as a service
.. /APOSDistSvr9.exe /U	Uninstall as a service
.. /APOSDistSvr9.exe /SI	Silent install as a service
.. /APOSDistSvr9.exe /SU	Silent uninstall as a service

HANDLING LARGER PROCESSING VOLUMES

OVERVIEW

In order to handle larger volumes of reports, the report processing service is separated from the main management service. If you wish, you can have multiple processing services (Distribution Servers). There must be only one manager service (Distribution Server Manager).

The processing servers (Distribution Servers) handle the exporting, emailing, and printing. They should be set up with all the emailing options and access to printers and file servers.

The manager service (Distribution Server Manager) handles the scheduling. It should be set up with the list of available processing servers. The manager service attempts to load balance the processing servers. If a server lags behind it will stop being allocated jobs. If a server needs to be stopped it should be removed from the list of available processing servers. The jobs for that server will then be allocated to the other available processing servers. The system must have at least one processing server in order to run. The name of a processing server is the name of the machine it is on. You can only have one processing server on each machine. You can have the manager service on the same machine as a processing service.

INSTALLING COMPONENTS ON MULTIPLE MACHINES

There are two main components: Distribution Server Manager and Distribution Server. You can only have one Distribution Server Manager per system. You can have multiple Distribution Servers. If no Crystal Enterprise components exist on the computer you are installing on, use your Crystal Enterprise installation CD, select Custom installation and install Crystal Publishing Wizard, Custom Charting and Mapping Support. Disable any of the other options that you don't want installed - Servers, Data Access, etc. NOTE - be careful disabling any components that were previously installed since they may be uninstalled. Call for advice if you are unsure. After installing the components update the Distribution Server Manager configuration and list all the Distribution Server machines.

You must install the CSP pages on every WCS machine. Make sure you update the APOSCnst.csp file with your applicable information and settings.

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INI FILE CHANGES

You can change the list of Distribution Servers in the INI file while the Distribution Server Manager is running. That will let you remove a downed Distribution Server from the list. The Distribution Server Manager will reallocate the jobs to the other available Distribution Servers. Make sure you have at least one Distribution Server in the list. The servers have to be listed using consecutive numbers starting at 1. If a number is skipped the Distribution Server Manager will stop reading the list and miss all servers listed after the skipped number.

The format is: DS<number>=<computer name>

Number - an integer 1 and on without leading zeros.

Computer Name - There can be only one Distribution Server per computer. This is the name of the computer the Distribution Server is on.

TROUBLESHOOTING TIPS

Here are some common challenges and tips:

INSTALL.LOG

Install.log is created by the setup procedure. You can check it for a detailed list of what was successfully installed or anything that failed. It can be found in the Distribution Server directory location you specified during the setup procedure.

EVENT LOG

If *Distribution Server* is running as a Service, it will write entries to the Event Log for your review. For example, if your license has expired or if your Crystal Enterprise system has more servers than you are licensed for, *Distribution Server* will not function and an event will be recorded. When in doubt, check the event log.

TECHNICAL SUPPORT

EMAIL SUPPORT

If you are unsuccessful installing *Distribution Server* and require assistance, please email the details of your problem to support@apos.on.ca

HELP DESK

Telephone help desk support is available at 519-653-8332.

ERROR MESSAGES

The Distribution History screen will normally display an error message in the event of a failed distribution request. Potential error messages include:

CANNOT FIND INSTANCE XXXX

This message normally indicates that the report instance generated by Crystal Enterprise has been deleted before *Distribution Server* got a chance to use it for export, email, etc. This error can normally be eliminated by increasing the number of instances to be kept by Crystal Enterprise. Use the Crystal Management Console, Global Management Settings, Instances to adjust this setting.

UNABLE TO CONNECT TO APS

This message normally indicates that the Crystal APS service is not running or that *Distribution Server* is unable to connect to it. Confirm that the APS service is running and try again.

ERROR IN COMPLETEREPORT - XXXXXXXXXXXX - FAILED TO EXPORT THE REPORT

This message indicates that the requested output format failed due to an internal error. If this error occurs frequently, please contact your supplier for support.

ERROR IN COMPLETEREPORT - XXXXXXXXX - AN ERROR OCCURRED IN THE PROTOCOL

This message indicates that the requested output format failed due to an internal error that may involve the SMTP mail server. For example, this error may occur if an 'E-Mail File Attachment' is requested and the resulting output file size exceeds your SMTP mail server's allowable file size. If this error occurs frequently, please contact your supplier for support.

STATUS: FAILED -

The CE instance failed - check the History screen and click on Failed to see why CE could not process this report.

STATUS: RTERROR -

Error trying to retrieve a CE instance - either the token is bad or CE is not responding. If CE processed this report instance successfully and this is a recurring instance, locate the recurring instance on the Recurring screen, delete it and recreate it.

STATUS: NFERROR -

The required Instance cannot be found. Either the required instance has been deleted or CE is not running. Check the Crystal Management Console - Global Management - Settings - Instances to make sure that all 3 settings are high enough to ensure that Crystal Enterprise is not deleting instances before *Distribution Server* can process them.

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If LICENSEE uses the SOFTWARE PRODUCT outside of Canada, LICENSEE shall comply fully with all relevant export laws and regulations of Canada to ensure that neither the SOFTWARE PRODUCT, nor any direct product thereof are exported, directly or indirectly, in violation of the federal laws of Canada. LICENSEE shall be responsible for obtaining all necessary export control licenses or other permits, and for complying with related export control laws and regulations, in respect of the proposed installation by LICENSEE of the SOFTWARE PRODUCT or any part there in any foreign country.

13. U.S. GOVERNMENT RESTRICTED RIGHTS

The SOFTWARE is a “commercial item,” as that term is defined at 48 C.F.R. 2.101 (OCT 1995), consisting of “commercial computer software” and “commercial computer software documentation,” as such terms are used in 48 C.F.R. 12.212 (SEPT 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227-7202-1 through 227-7202-4 (JUNE 1995), all U.S. Government End Users acquire the SOFTWARE PRODUCT with only those rights set forth herein.

14. LAWS

This LICENSE shall be governed by and interpreted according to the laws of the Province of Ontario, including applicable Canadian federal laws, without reference to its conflicts of law principles. Each of the parties hereto irrevocably attorns to the jurisdiction of the courts of the Province of Ontario and further agrees to commence any litigation, which may arise hereunder in the courts located in the Region of Waterloo, Province of Ontario. The parties specifically disclaim the United Nations Convention on Contracts for the International Sale of Goods.

15. ENTIRE AGREEMENT

This Agreement is the entire agreement between the parties relating to the use, reproduction and transfer of the SOFTWARE PRODUCT and supersedes any other communications and agreements between APOS and LICENSEE relating to the subject matter of this Agreement.

Should LICENSEE have any questions concerning this LICENSE, or if LICENSEE desires to contact APOS for any reason, please contact:

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