

# **R-1**

## **Deployment Platform**

# **Processes Guide**

**Software Version 5.0**

**For Windows/UNIX operating systems**

**May 11, 2011**

Copyright © 2011 RepliWeb® Inc., All Rights Reserved

The information in this manual has been compiled with care, but RepliWeb, Inc. makes no warranties as to its accuracy or completeness. The software described herein may be changed or enhanced from time to time. This information does not constitute a commitment or representation by RepliWeb and is subject to change without notice. The software described in this document is furnished under license and may be used and/or copied only in accordance with the terms of this license and the End User License Agreement.

No part of this manual may be reproduced or transmitted, in any form, by any means (electronic, photocopying, recording or otherwise) without the express written consent of RepliWeb, Inc.

Windows, Windows XP and Windows Vista are trademarks of Microsoft Corporation in the US and/or other countries. UNIX is a registered trademark of Bell Laboratories licensed to X/OPEN.

Any other product or company names referred to in this document may be the trademarks of their respective owners.

**Please direct correspondence or inquiries to:**

RepliWeb, Inc.  
6441 Lyons Road  
Coconut Creek, Florida 33073  
USA

Telephone: (954) 946-2274  
Fax: (954) 337-6424

Sales & General Information: [info@repliweb.com](mailto:info@repliweb.com)  
Documentation: [docs@repliweb.com](mailto:docs@repliweb.com)  
Technical Support: <http://support.repliweb.com>  
Website: <http://www.repliweb.com>

# Table of Contents

<b>1.</b>	<b>Introduction.....</b>	<b>1</b>
<b>2.</b>	<b>R-1 System Processes .....</b>	<b>2</b>
	R-1 System Process (Windows).....	2
	R-1 System Process (UNIX).....	3
<b>3.</b>	<b>Job-initiated Processes.....</b>	<b>4</b>
	Job-initiated Processes (Windows) .....	4
	General Processes in Windows-based Jobs .....	4
	Transfer Engine-specific Processes in Windows-based Jobs .....	6
	Job-initiated Processes (UNIX) .....	7
	General Processes in UNIX-based Jobs .....	7
	Transfer Engine-specific Processes in UNIX-based Jobs .....	8

# 1. Introduction

This document lists and describes active R-1 processes in Windows and UNIX platforms.

Certain processes are invoked per job and exist until job completion, while others run both in idle mode and while jobs are running. Idle mode is a period when R-1 is running but no jobs are active.

CPU/Memory resource consumption depends on a number of factors, for example, number of running jobs/active users, volume of data to be transferred, etc.

**NOTE:** In idle mode, R-1 resource consumption is negligible. While a job is running, resources are allocated dynamically according to the job's needs.

For more information, contact our Customer Support department at [support.repliweb.com](http://support.repliweb.com)

## 2. R-1 System Processes

The processes detailed in this chapter appear while R-1 is active - both in idle mode and while jobs are running.

**NOTE:** The CPU/Memory resources used by these processes is negligible and should not affect overall machine performance.

### R-1 System Process (Windows)

The processes detailed below run in idle mode – R-1 is active but no jobs are running.

Process	Description	Runs on
repliweb_scheduler.exe	Starts and stops all processes according to their schedules. Creates the following sub-processes: <ul style="list-style-type: none"> <li>active_server.exe</li> <li>submit_server.exe</li> <li>archive_server.exe</li> <li>sched_api_server.exe</li> </ul>	Center
active_server.exe	Responsible for running jobs.  <b>NOTE:</b> This process is operated by repliweb_scheduler_service.exe.	Center
submit_server.exe	Checks if scheduled jobs need to initiate new jobs.  <b>NOTE:</b> This process is operated by repliweb_scheduler.exe.	Center
archive_server.exe	Responsible for purging finished jobs.  <b>NOTE:</b> This process is operated by repliweb_scheduler.exe.	Center
sched_api_server.exe	Controls the active, archive and submit processes.  <b>NOTE:</b> This process is operated by repliweb_scheduler.exe.	Center
fcservice.exe	FASTCopy service.	Edge

Process	Description	Runs on
gastart.exe	(FASTCopy daemon) Runs jobs.	Edge
R1_console.exe	Executes the R-1 console GUI.	Console
repliweb_server.exe	Manages and monitors Center-side, and Edge-side, applicative requests, such as connecting the Console to the R-1 server.	Center and Edge
rw_srv.exe	Receives requests from the Center and creates processes. Also acts as a server when there is no need for multiple processes (e.g., running proservers Snapshot).	Center and Edge

## R-1 System Process (UNIX)

**NOTE:** In UNIX idle mode, processes are active if at least one scheduled job exists.

Process	Description	Runs on
RepliWeb Active Server	(scheduler, Active server) Responsible for status changes of all running (active) jobs.	Center
RepliWeb Archive Server	(scheduler, Archive server) Purges completed jobs.	Center
RepliWeb Scheduler API Server	(scheduler, API server) Controls the active, archive and submit processes.	Center
RepliWeb Submit Server	(scheduler, Submit server) Submits jobs.	Center
in.repliweb	<b>NOTE:</b> A process is created for each Console.	Center

## 3. Job-initiated Processes

The processes detailed in this chapter manage the file transfer procedure. They are created for each R-1 job and disappear once the job is completed.

**NOTE:** The amount of CPU/Memory resources used by these processes depends on the machine's I/O and networking throughput.

### Job-initiated Processes (Windows)

The processes detailed in this section are created by R-1 jobs.

#### General Processes in Windows-based Jobs

Process	Description	Runs on
<code>acl_list.exe</code>	Sets or maintains the file's NTFS permissions.  <b>NOTE:</b> A process is created for each Replication job with preserved NTFS permissions.	Center and Edge
<code>make_list.exe</code>	Runs during snapshot, on the target and source. While running, this process can require considerable CPU/Memory resources but ends at Snapshot generation.  <b>NOTE:</b> A process is created for each Replication/Distribution job.	Center and Edge
<code>repliweb_core.exe</code>	Responsible for replication jobs.  <b>NOTE:</b> A process is created per Edge in each Center-to-Edge Replication/Distribution job.	Center
<code>repliweb_dmgr.exe</code>	Controls the entire job flow for each Distribution job and manages one <code>repliweb_core.exe</code> process per Edge.  <b>NOTE:</b> A process is created for each Edge in a Distribution job.	Center
<code>rw_scanner.exe</code>	Scans the events created on the source.  <b>NOTE:</b> A process is created for each running Continuous Update job.	Center

---

Process	Description	Runs on
windows_rw_rollback_recorder.exe	Saves target files to be changed by job in order to enable rollback to this state at a later time.  <b>NOTE:</b> A process is created during the Rollback stage for each running job where rollback is enabled.	Center or Edge

## Transfer Engine-specific Processes in Windows-based Jobs

The processes detailed below are created by jobs that use the appropriate transfer engine. For example, a job that uses the WAN engine will create the `fcopyd.exe` and `repliweb_transfer.exe` processes.

**NOTE:** Only one transfer engine (WAN, LAN, LFA) can be used per job. By default, three streams are used per job, and consume both networking and I/O resources.

### LAN Engine Processes

Process	Description	Runs on
<code>rw_express.exe</code>	<b>NOTE:</b> A process is created per stream for jobs using LAN engine.	Center and Edge

### WAN Engine Processes

Process	Description	Runs on
<code>fcopyd.exe</code>	FASTCopy daemon process. <b>NOTE:</b> A process is created per stream for jobs using WAN engine.	Edge
<code>repliweb_transfer.exe</code>	<b>NOTE:</b> A process is created per stream for jobs using WAN engine.	Center

### LFA Engine Processes

Process	Description	Runs on
<code>large_file_accelerator.exe</code>	<b>NOTE:</b> A process is created per stream for jobs using LFA engine.	Center
<code>rw_srv.exe</code>	Receives files from Center. <b>NOTE:</b> A process is created once R-1 is initialized. During jobs using LFA engine, its CPU/Memory resource consumption increases considerably.	Edge

## Job-initiated Processes (UNIX)

The processes detailed in this section are created by UNIX-based R-1 jobs and manage the job that creates them, existing until the job ends:

### General Processes in UNIX-based Jobs

Process	Description	Runs on
<code>in.repliweb</code>	Creates each Edge-side job's processes.  <b>NOTE:</b> A process is created for each Console used.	Center
<code>make_list</code>	Creates a files snapshot on the source and target. This process runs during Snapshot generation and may require considerable CPU/Memory.  <b>NOTE:</b> A process is created for each Replication/Distribution job.	Center and Edge
<code>repliweb_core</code>	Controls each job's flow.  <b>NOTE:</b> A process is created for each Center-to-Edge Replication/Distribution job.	Center
<code>repliweb_dmgr</code>	Controls the entire job flow for each Distribution job and manages one <code>repliweb_core.exe</code> process per Edge.  <b>NOTE:</b> A process is created for each Distribution job.	Center
<code>repunixsec</code>	Sets or maintains permissions on files.  <b>NOTE:</b> A process is created for each Replication/Distribution job with preserved permissions.	Center and Edge
<code>rw_rolbck_reco rder</code>	Saves target files to be changed by job in order to enable rollback to this state at a later time.  <b>NOTE:</b> A process is created during Rollback stage for each running job where rollback is enabled.	Center or Edge

## Transfer Engine-specific Processes in UNIX-based Jobs

The processes detailed below are created by jobs that use the appropriate transfer engine. For example, a job that uses the WAN engine will create the `fcopyshr` and `repliweb_transfer` processes.

**NOTE:** Only one transfer engine (WAN, LAN, LFA) can be used per job. By default, three streams are used per job, and consume both networking and I/O resources.

Process	Description	Runs on
<code>fcopyshr</code>	<b>NOTE:</b> A process is created per stream for jobs using WAN engine.	Edge
<code>large_file_accelerator</code>	<b>NOTE:</b> A process is created per stream for jobs using LFA engine.	Center
<code>repliweb_transfer</code>	<b>NOTE:</b> A process is created per stream for jobs using WAN engine.	Center
<code>rw_express</code>	<b>NOTE:</b> A process is created per stream for jobs using LAN engine.	Center and Edge