

Cirrato changelog 24.0.7

This document describes changes made in Cirrato One customer releases from 2009 onwards.

The information pertaining to a release is typically structured in the following manner:

- Release component versions, and date (YYYY-MM-DD) when the release was made available and/or when the changelog was finalized.

Some components may have been delivered separately. Client version numbers should mainly be seen as indicating the latest client that is compatible with the given server.

- Changes, sorted by component.

Changes are listed with the following information:

- Category of the change (new Feature, stability/performance Enhancement, or error Correction).
- Brief description of the change including new/changed server settings, DB properties, error codes, or directories.
- Reference number; LRS' internal ticket item (*JIRA* or *TFS*) to which the change is related, included here for traceability. If the change is related to a support case, the relevant support ticket item (*Dyn./CAS*, *ZD* or *OTRS*) is also included.

In the chapters covering older releases, these formats vary for legacy reasons.

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1 24.0.7

Server	24.0.7	Win client	23.0.4	Doc date	2022-01-03
Database	24.0.7	Mac client	1.6.1		

1.1 Cirrato One Installer

Feature: Option to manually select database drivers added in the installer menu. (*JIRA #2261*)

Correction: Resolved an issue that could cause applying server certificates on HTTPS binding to fail in some environments. (*JIRA #2271*)

1.2 Server

Feature: The Cirrato One server supports Windows Server 2022. (*JIRA #2263*)

1.3 Cirrato Management Studio

Feature: Validation check added that AD group name is entered without domain upon login. (*JIRA #2264*)

Enhancement: AD group validation changed from sending AD Group parameter as URL, to managing the validation within CMS API (*JIRA #2265*)

2 24.0.6

Server	24.0.6	Win client	23.0.4	Doc date	2021-10-01
Database	24.0.6	Mac client	1.6.0		

2.1 Cirrato One Installer

Feature: The installer has been modified to support TLS version 1.2 or later. (*JIRA #2257, CAS-52619-H6T1H5*)

Feature: The installation progress dialog has been complemented with information on what custom action is currently running. (*JIRA #2227*)

Feature: Server setup dialog had an added field in where the administrator can select in which directory to store driver files. (*JIRA #2246*)

Enhancement: Messagebox listing failed driver consolidations (e.g. when drivers are missing) has been redesigned for ease of use. (*JIRA #2247*)

2.2 Database

Feature: “Fujifilm” added to physical brands. (*JIRA #2245*)

2.3 Web GUI

Security update: Various modifications in the Cirrato Web for improved protection against SQL injections. (*JIRA #2259*)

3 24.0.5

Server	24.0.5	Win client	23.0.3	Doc date	2021-03-23
Database	24.0.5	Mac client	1.6.0		

3.1 Cirrato One Installer

Correction: A SQL script for creating a service user would fail if the username began with leading digits. (*JIRA #2240*)

Correction: The InfluxDB bind address was not set explicitly by the Installer, which could lead to an incorrect address being used. (*JIRA #2241*)

4 24.0.4

Server	24.0.4	Win client	23.0.3	Doc date	2021-03-04
Database	24.0.4	Mac client	1.6.0		

4.1 Cirrato One Installer

Enhancement: Simplified server certificate and certificate password handling during upgrade for ease of use and increased stability. (*JIRA #2212 #2219*)

Correction: Existing server certificates were not overwritten during a reinstall or an upgrade. (*JIRA #2211*)

Correction: Resolved issues that would cause InfluxDB setup and database creation to fail if the server certificate was not trusted by an installed CA certificate. (*JIRA #2217 #2221*)

Correction: Resolved display issue with validation of LDAP credentials. (*JIRA #2220*)

4.2 Server

Feature: Username/password authentication now supports usernames with an "@" character.

Note: It is not supported if Kerberos authentication (keytab, service name) is configured; @ and characters following it are then automatically replaced by default domain. (*JIRA #2234*)

Enhancement: *CirratoTicketServer.exe* command line program partially refactored, help texts updated, improved verbose output of test commands. (*JIRA #2192*)

4.3 Database

Correction: An exception would be thrown if an alert log entry had a description whose length exceeded 255 characters. It will now be truncated to 255 characters. (*JIRA #2218*)

4.4 Cirrato Management Studio

Feature: CMS upgraded to use .NET Core 5.0 (installed automatically). (*JIRA #2202*)

Enhancement: Modified handling of group membership during login for improved stability. (*JIRA #2201*)

Correction: Resolved a data binding issue in the *Edit Queue* page. (*JIRA #2208*)

4.5 Cirrato Control Center

Resolved issue that blocked upload of map images for the *Navigator* tool. (*JIRA #2209*)

5 24.0.3

Server	24.0.3	Win client	23.0.2	Doc date	2020-12-17
Database	24.0.3	Mac client	1.5.1		

5.1 Cirrato One Installer

Enhancement: Helptext modifications in the installation Setup Wizard for improved clarity. (JIRA #2163 #2164 #2165)

5.2 Database

Feature: Added setting to make Windows clients write ShortID to client registry; used for guest printing. (JIRA #2140)

New property: *ShortIDAsReg* (DWORD, default 0). Can be set in Configuration Manager under *Features* → *Properties*, or in CMS under *System Configuration/Advanced/Properties*.

Feature: Added support for macOS Big Sur driver deployments. (JIRA #2166)

Note: Big Sur will be reported as macOS 11.0 or macOS 10.16, depending on the SDK used.

Correction: Resolved an issue where the minor error code 70 had become associated to the incorrect major code. Events were logged correctly in ticket log. (JIRA #2107)

5.3 Cirrato Management Studio

Feature: Which admin AD group should have CMS access is now configurable through a dialog that appears the first time CMS is run. (JIRA #2151)

Enhancement: Page designs refactored in *Printer* list and *Regional* view. (JIRA #2137)

Enhancement: Multi-language, improved translations on some pages. (JIRA #2139)

6 24.0.2

Server	24.0.2	Win client	23.0.1	Doc date	2020-10-28
Database	24.0.2	Mac client	1.5.1		

6.1 Cirrato One Installer

Enhancement: Added checks that the user running the installer and (when applicable) the SQL installation user have *db_owner* permission on the Cirrato database, and that the service user has *dbo* as default schema. (JIRA #1928, CAS-44310-F4S5W1)

Enhancement: Added check that the user running the installer is having the *db_creator* role. (JIRA #2143)

Enhancement: For improved robustness, modified installer behavior if the specified service account already exists but is not *sa*. (JIRA #2145)

Correction: Resolved a timeout issue that could make some services fail to start. (JIRA #2138)

Correction: Resolved a service login issue that could appear if the EmailPrint feature was not running. (JIRA #2146)

6.2 Server

Enhancement: Added Web Service API capability to read client session information from *CirratoTicketServer* for improved performance. (JIRA #1346, ZD #3544)

Enhancement: Deprecated *registry migration* feature removed from server software and installer. (JIRA #1875 #2134)

Enhancement, EmailPrint: Reply e-mail attachments for preview are now also converted to PDF if the print documents are XPS files. (JIRA #1951)

Enhancement: Modifications in communication protocol for increased robustness against bad input data. (JIRA #2099)

Corrected code that would cause client SQL authentication to be enabled by default, which could result in display issues on Mac clients. (JIRA #1390)

Configuration Manager, *Features* → *Rules* → *General*: The *Activate Region Rules* checkbox did not work. (JIRA #1596, CAS-34058-M1J2R2)

Correction: Resolved a conversion issue that would trigger an exception if a ticket check was sent to the server with an empty ticket ID. (JIRA #1827)

Correction: Fixed a resource leak that could occur when retrieving printer configurations from the database. (JIRA #1914)

Correction: Resolved a timing issue that could cause an attribute to be saved as a client billing code to not get stored. (JIRA #2054)

6.3 Cirrato Management Studio

Feature: Under *System Configuration/Report Setting/Counters*, new *Security* tab added for adding, editing and deleting SNMP security names. (JIRA #2026)

Enhancement: Hierarchy selection (selecting/unselecting a parent node also selects/unselects its child nodes) implemented in the *Permission Sets* page. (JIRA #2132)

Correction: Resolved a display issue in the *Connectivity / Directory Attributes* lists that would appear when attributes had long LDAP names. (JIRA #2050)

Correction: Resolved a display issue that could make tooltips remain open and overlap each other. (JIRA #2078)

Correction: A display issue in the *Attribute Logging* page could make empty entries appear in a drop-down menu. (JIRA #2079)

Correction: In the *Attribute Logging* page, when an LDAP attribute had been set as a client billing code, the wrong attribute could be displayed in the *Attributes* list. (JIRA #2080)

Correction: Resolved display issue in the "Most/Least used printers" report. (JIRA #2105)

6.4 Cirrato Configuration Manager

Enhancement, *Features* → *Authentication* → *Authentication Rules*: Improved naming process when new authentication rules are created, and an error message corrected. (JIRA #980)

6.5 Web GUI

Correction: Resolved debit issues against the Cirrato Wallet for copy jobs. (JIRA #2126)

Correction: Resolved an issue that could make the Cirrato Web fail to receive encryption settings from the server, enter an error state and not recover. (JIRA #2141)

7 24.0.1

Server	24.0.1	Win client	23.0.1	Doc date	2020-09-24
Database	24.0.1	Mac client	1.5.1		

7.1 Cirrato One Installer

Correction: Resolved an issue that would make upgrades that include the Cirrato database fail if the database was not installed in the previous version. (*JIRA #2130*)

8 24.0.0

Server	24.0.0	Win client	23.0.0	Doc date	2020-09-18
Database	24.0.0	Mac client	1.5.1		

8.1 Cirrato One Installer

Feature: Added support for the Grafana application and Influx DB in CMS. (*JIRA #1968*)

Used TCP ports: 3000, 8086

Feature: If a driver file check fails, the installer will now prompt the user to decide how to proceed (abort, retry, continue). (*JIRA #2069*)

Feature: If applying a certificate on an HTTPS binding fails, the installer will now prompt the user to decide how to proceed (abort, retry, continue). (*JIRA #2070*)

Enhancement: Minor improvements to simplify upgrade procedures. (*JIRA #2084, 2086, 1867*)

Enhancement: Improved file cleanup at installation rollback / uninstall. (*JIRA #2116*)

Correction: Resolved issues that could cause installations in silent mode to fail. (*JIRA #1944, 1946*)

8.2 Cirrato Management Studio

Feature: Cirrato Management Studio (CMS), a new web-based interface for Cirrato One configuration, maintenance, administration and reporting. (*JIRA #280, 1049, 1087, 1088*)

CMS mirrors many of the functions in the Print Management MMC, Cirrato Control Center and the Cirrato Configuration Manager. Those interfaces currently remain supported parts of the product, but will eventually be replaced by CMS.

8.3 Server

Feature: Cirrato EmailPrint allows users to print documents by sending them to a print queue via e-mail, which can be done from a phone as well as from a computer. (*JIRA #1529*)

Enhancement: System cleanup of code and properties pertaining to the deprecated Card Reader service and related components. (*JIRA #1699*)

Enhancement: Improved MMC mechanism to refresh count of printer licenses. (*JIRA #2106*)

Correction: Resolved an issue that would make information on certain exception events not be displayed correctly. (*JIRA #1849*)

Correction: When remote calls to create web sessions were refused due to being disallowed, the status returned by the CreateSession API was incorrect. (*JIRA #2068*)

8.4 Database

Feature: Modifications to support use of the Grafana application in CMS. (*JIRA #1087*)

8.5 Standalone tools

Correction: Resolved an issue that would make the *CirratoInventory* tool throw an exception when performing printer inventory. (*JIRA #1920*)

9 23.0.3

Server	23.0.3	Win client	23.0.0	Doc date	2020-07-08
Database	23.0.3	Mac client	1.5.1		

9.1 Cirrato One Installer

Correction: Resolved an issue that could cause upgrades to fail or become faulty if the new Cirrato One version was installed to the same directory as the old version. (*JIRA #2056*)

10 23.0.2

Server	23.0.2	Win client	23.0.0	Doc date	2020-06-30
Database	23.0.2	Mac client	1.5.1		

10.1 Server

Feature: Pull Print “release all” can now be performed with only a card swipe; the user does not need to touch the printer’s front panel. (*JIRA #1987, CAS-45611-P4N0X8*)

New property: *SwipeAndReleaseAll* (DWORD, default 0)

Correction: An issue made session timeouts not work for the Per-Print Authentication feature. (*JIRA #2006 #1458, CAS-45567-J1LOZ4*)

11 23.0.1

Server	23.0.1	Win client	23.0.0	Doc date	2020-04-30
Database	23.0.1	Mac client	1.5.1		

11.1 Server

Correction: An authentication dialog would be randomly triggered on Windows clients when printing. This occurred if client authentication was enabled, on clients that should not need to authenticate given the authentication rule IP scopes. Affected clients older than version 22.5.0 used with server 22.5.0 or later. (*JIRA #1957, CAS-44819-K2R3D9*)

12 23.0.0

Server	23.0.0	Win client	23.0.0	Doc date	2020-03-24
Database	23.0.0	Mac client	1.5.0		

12.1 Cirrato One Installer

Feature: The installer can now be run in silent mode. (*JIRA #1894*)

Enhancement: Added auto-check to validate that the server OS fulfills the requirements for components to be installed. (*JIRA #1902*)

Enhancement: Added modifications for improved security when performing a server upgrade using SQL Server authentication. (*JIRA #1916, CAS-43663-C1L4B0*)

12.2 Server

Feature: SNMP monitoring traffic to/from printers can use SNMPv3 for additional security. Includes UI changes in Cirrato MMC (*New Printer* dialog) and Config Manager. (*JIRA #434*)
Note: Full functionality of this feature requires client version 23.0.0.

Feature: Implemented encryption of comm protocol through full client/server communication chain and server/web GUI communication. (*JIRA #1207, 1586*)
New database properties: *EncryptionEnabled* (group *Feature*), default 0; *EncryptionEnabled* (group *WebGUI*), default 0; *AESKeyLengthInBits* (group *WebGUI*), default 128.
Note: Full functionality of this feature requires client version 23.0.0.

Feature: Server can store unique symmetric encryption keys, generated per job and used for client encryption of spool files and client/client communication. (*JIRA #1207, 1838*)
Note: Requires clients and handover points to be version 23.0.0

Correction: A server-side issue could result in a random local printer being uninstalled when installing a queue with the *cirrato.exe* client utility. (*JIRA #1906*)

Correction: Added missing error code in “search failed” exception message for authenticating card logins. (*JIRA #1667, CAS-37469-B8L3D9*)

Correction: Exception errors due to card ID conversion problem, resolved by using SNMPv3. (*JIRA #1828*)

Correction: Exceptions in monitor when checking total pages, resolved by using SNMPv3. (*JIRA #1886*)

12.3 Database

Correction: Resolved a truncation issue in report batch jobs that could cause reports to not contain any data. (*JIRA #1937*)

12.4 Web GUI

Correction: In an installation made in Express mode, the "i" information links in the *Queue Manager* and *Monitoring* tabs would not display any information. (*JIRA #1923*)

12.5 Cirrato Configuration Manager

Feature, *Features* → *SNMP* (renamed from *Features* → *Counters*): New *Security Names* tab added with SNMPv3 settings. (*JIRA #434*)

Correction, *Features* → *SNMP* → *Counter Programs*: New counter programs were created with an incorrect date/time string format, which would cause counter program updates to fail. (*JIRA #1829, 1890*)

13 22.6.3

Server	22.6.3	Win client	22.5.0	Doc date	2020-01-21
Database	22.6.3	Mac client	1.4.1		

Note: The changes in this release were also included in release 22.4.3.

13.1 Server

Correction: An issue would make counter programs fail to start if they used one or more OIDs that were encrypted in the database. (*JIRA #1871*)

Correction: Resolved an issue that would make the Cirrato Ticket Server service CPU usage go to 100% if the Cirrato One license was invalid (e.g. had expired). (*JIRA #1885*)

14 22.6.2

Server	22.6.2	Win client	22.5.0	Doc date	2020-01-15
Database	22.6.2	Mac client	1.4.1		

Note: This release does not include server changes from release 22.4.3 or 22.4.4. The CCM change below (*JIRA #1870*) was also included in release 22.4.3.

14.1 Server

Enhancement: Changed in Web Service API how empty scan destinations are reported to MFP devices. Invalid destinations are filtered out. (*JIRA #1887*)

14.2 Database

Correction: Resolved an issue that could occur when running the *InstallSQL* script multiple times. (*JIRA #1888*)

14.3 Cirrato Configuration Manager

Correction, *Programs* → *Web GUI* → *Features*: An issue made the WebGUI *Pull Print* tab not possible to disable from the Configuration Manager. (*JIRA #1870*)

15 22.6.0

Server	22.6.0	Win client	22.5.0	Doc date	2019-12-12
Database	22.6.0	Mac client	1.4.1		

Note: This release does not include changes from release 22.4.3 or 22.4.4.

15.1 Cirrato One Installer

Feature: In Express Mode, the Installer will now install Microsoft SQL Express 2019 instead of SQL Express 2017. (*JIRA #1868*)

15.2 Server

Feature: Added functionality to convert card numbers sent as hexadecimal into decimal format. (*JIRA #1851, CAS-40559-R9S3Y3*)

15.3 Database

Feature: Added scripts used to search for, retrieve, redact and/or delete user information: *sp_cms_redact_data.sql, sp_cms_log_trim_do.sql, sp_cms_user_info_get.sql, sp_cms_user_info_redact.sql, sp_cms_user_info_redact_table.sql* (*JIRA #1677*)

15.4 Cirrato Configuration Manager

Feature, *Features* → *Cards* → *Card Number Sources*: The menu *Card number conversion* updated with new "Convert to decimal" setting that converts hexadecimal card numbers to decimal format. (*JIRA #1851, CAS-40559-R9S3Y3*)

Note: Old setting named "Convert to decimal" renamed "Strip leading zeros". The setting "Use Raw Card Numbers" renamed "No conversion".

16 22.5.0

Server	22.5.0	Win client	22.5.0	Doc date	2019-11-12
Database	22.5.0	Mac client	1.4.0		

Note: This release does not include changes from release 22.4.3 or 22.4.4.

16.1 Server

Feature: Added server support for per-print authentication on Windows clients, used e.g. for "kiosk mode" on shared computers. (*JIRA #1859*)

Note: Per-print authentication requires Windows clients version 22.5.0 or later.

16.2 Standalone tools

16.2.1 XPAT Connector

Feature: Added support for SQL Server 2016. (*JIRA #1824, CAS-40703-G1Q3G1*)

Feature: The XPAT Connector will now delete jobs that do not have a username. (*JIRA #1824, CAS-40703-G1Q3G1*)

17 22.4.5

Server	22.4.5	Web GUI	22.4.5	Doc date	2020-12-10
Registry	22.4.5	Win client	22.4.0		
Database	22.4.5	Mac client	1.4.0		

17.1 Web GUI

Correction: Resolved logging issues and debit issues against the Cirrato Wallet for copy jobs.
(*JIRA #2126*)

Note: Apart from in this release, this correction is *not* included in any releases older than server version 24.0.2.

18 22.4.4

Server	22.4.4	Web GUI	22.4.4	Doc date	2020-07-08
Registry	22.4.4	Win client	22.4.0		
Database	22.4.4	Mac client	1.4.0		

18.1 Cirrato One Installer

Correction: Resolved an issue that could cause upgrades to fail or become faulty if the new Cirrato One version was installed to the same directory as the old version. (*JIRA #2056*)

Note: Apart from in this release, this correction is *not* included in any releases older than Installer 23.0.3.

18.2 Server

Correction: A server-side issue could result in a random local printer being uninstalled when installing a queue with the *cirrato.exe* client utility. (*JIRA #1906*)

Note: This correction is not included in later 22.* server releases. It is included in all versions from 23.0.0 and later.

19 22.4.3

Server	22.4.3	Web GUI	22.4.3	Doc date	2020-01-21
Registry	22.4.3	Win client	22.4.0		
Database	22.4.3	Mac client	1.4.0		

19.1 Server

Correction: An issue would make counter programs fail to start if they used one or more OIDs that were encrypted in the database. (*JIRA #1871*)

Correction: Resolved an issue that would make the Cirrato Ticket Server service CPU usage go to 100% if the Cirrato One license was invalid (e.g. had expired). (*JIRA #1885*)

19.2 Cirrato Configuration Manager

Correction, *Programs* → *Web GUI* → *Features*: An issue made the WebGUI *Pull Print* tab not possible to disable from the Configuration Manager. (*JIRA #1870*)

20 22.4.2

Server	22.4.2	Win client	22.4.0	Doc date	2019-10-25
Database	22.4.2	Mac client	1.4.0		

20.1 Database

Feature: Added support for macOS Catalina (10.15) driver deployments. (*JIRA #1852*)

Enhancement: Database installation script modified for improved stability during upgrades. (*JIRA #1857*)

21 22.4.1

Server	22.4.1	Win client	22.4.0	Doc date	2019-10-08
Database	22.4.1	Mac client	1.4.0		

21.1 Cirrato One Installer

Enhancement: *Visual C++ Redistributable for Visual Studio 2013* added as prerequisite. If not found on the server machine it will be installed by the Cirrato One Setup Wizard. (JIRA #1833)

22 22.4.0

Server	22.4.0	Win client	22.4.0	Doc date	2019-09-18
Database	22.4.0	Mac client	1.4.0		

22.1 Server

Feature: Cirrato One Setup Wizard, a new installer that performs a complete installation/upgrade of the Cirrato One server, database, web and standalone tools. It replaces the old Cirrato Server Installer. (*JIRA #1460, #1732*)

Feature: JBA merging for Xerox/Fuji Xerox devices can now be used in connection with the IPP/IPPS protocols (previously only available with LPR). (*JIRA #1550*)

Note: The option "Send ticket ID as IPP/IPPS document name" requires Cirrato client 22.4.0.

Feature: New WS-API function *GetAttributeValue* enables Embedded terminals to request user UPN, including FQDN, from LDAP. (*JIRA #1745*)

Enhancement: For added security, MMC access from computers other than *localhost* is now disallowed by default. To allow access from other machines, set the database properties *AdminListenAddress* to 0.0.0.0 and *AuthActive* to 1. (*JIRA #1720*)

Enhancement: Additional login logging in WS-API, redundant code removed for improved performance. (*JIRA #1801*)

Correction: Resolved a timeout handling issue that could cause erroneous "print successful" messages to be returned even if jobs could not be sent. Scheduled time estimate is now not performed if the job is sent to client by handover. (*JIRA #413*)

New major/minor error codes: 20/101, 20/102

Correction: An issue made it not possible to install the Cirrato database if the login user that would be owner of the database, had another database as default database. (*JIRA #1096, TFS #1330*)

Correction: If the sending of a job to a connected printer was incomplete/aborted, the client would report it to the server as "printing aborted", but the server would log it as "no contact with printer". (*JIRA #1428*)

New major/minor error codes: 30/96, 30/97, 20/98, 20/99, 20/100

Code 30/92 renamed `PR_PRINTER_NOT_ACCEPTING_JOBS_MOVED_BACK_TO_FP`

Correction, MMC: Resolved an issue with queues set as Hidden becoming visible if the *Edit Printer* dialog for their associated printer was opened. (*JIRA #1501*)

Correction: Resolved an issue that would cause the server to go up to 100% CPU if a license expired. (*JIRA #1643*)

22.2 Database

Feature: The attribute log table can now be trimmed of old entries in the same way as the ticket log table. (*JIRA #1248*)

Feature: Added scripts used to search for, retrieve and redact sensitive user information: *dbo.spc_user_info*, *dbo.spc_user_info_get_table*, *dbo.spc_user_info_redact_table*. (*JIRA #1492 #1493 #1494*)

Enhancement: Log truncation feature on "user print partial" modified so that last error state is kept for failed tickets with major codes 20 (*Ticket Erased*) or 21 (*Ticket Erased Manual*). (*JIRA #612*)

Enhancement: Merge batch for Job Based Accounting limited to 4500 jobs per transaction, for improved ticket server performance. (*JIRA #1159*)

Enhancement: Ticket transaction log batch limited to 4500 rows per transaction, for improved ticket server performance. (*JIRA #1162*)

Enhancement: Stored procedure *spc_tbl_ticket_log_trim* removed; deprecated and replaced by *sp_log_trim_do*. (*JIRA #1167*)

Enhancement: SP modifications to prevent dispatcher performance issues under heavy load. (*JIRA #1660*)

Correction, legacy reporting system: Some reports filtered start/end dates so that the end date was not included in the reports. Default period in some reports changed for improved performance. (*JIRA #1081, ZD #3818*)

Correction: Resolved performance issues with the report *Jobs by Type and User*. (*JIRA #1583, #CAS-32870-X7Y8V5*)

Correction: Resolved an intermittent startup problem that could make the Cirrato MMC hang and affect installed printers and drivers. (*JIRA #1735*)

22.3 Web GUI

Correction: Resolved an issue that could make Pull Print jobs released from the web get set to a random number of copies. (*JIRA #1470*)

Correction: Web GUI *About* dialog modified and display issues resolved. (*JIRA #1421 #1697*)

Correction: Client Billing codes were not saved in the Web GUI if SQL native client drivers were used. (*JIRA #1708*)

22.4 Standalone tools

22.4.1 Cirrato Configuration Manager

The Configuration Manager's *Quick Start Wizard* removed; replaced by built-in features in the new Cirrato One Setup Wizard.

Enhancement: Improved page layout in *General* → *Directory* → *General*. (*JIRA #571*)

Correction: Minor display error in *Features* → *Attribute Logging* → *Whitelist* resolved. (*JIRA #1794*)

22.4.2 CirratoPak

Correction: Resolved an issue that made upload of drivers for new models fail unless those drivers were uploaded twice. (*JIRA #1467*)

Correction: Resolved display issue; CirratoPak would only show 64 rows even if an uploaded .inf file contained more posts than that. (*JIRA #1538*)

22.4.3 Cirrato Control Center

Correction: Resolved an issue with the Navigator tool on Safari browsers. (*JIRA #1650*)

22.4.4 CSHOP

Correction: Resolved issue that made CSHOP not work after a server upgrade. (*JIRA #1503*)

22.5 General

The term "Follow Print" changed to "Pull Print" throughout the product. (*JIRA #1727*)

23 22.3.4

Server	22.3.4	Web GUI	22.3.4	Doc date	2019-05-20
Registry	22.3.4	Win client	22.3.6		
Database	22.3.4	Mac client	1.3.5		

Note: The changes implemented in this release are the same as in release 22.2.4. It also includes all changes introduced in previous 22.3 releases.

23.1 Web GUI

Correction: Modifications to resolve a potential security issue in the Self-Service web GUI. (JIRA #1675, #CAS-38115-X4S7R9)

Correction: Resolved an issue with *Scrambled Read-Only* group settings. (JIRA #1682, # CAS-38371-L1V4G1)

24 22.3.3

Server	22.3.3	Web GUI	22.3.3	Doc date	2019-03-15
Registry	22.3.3	Win client	22.3.6		
Database	22.3.3	Mac client	1.3.5		

Note: Does not include the changes introduced in server release 22.2.4.

24.1 Server

Correction: Configuring LDAP port 636 for lookups still resulted in traffic on port 389 from *CirratoTicketServer* if a user's domain was not configured in Cirrato. If so, the port that is configured for default domain will now be used. (*JIRA #1654, Dyn. #CAS-36916-Y6D4Q6*)

Note: Changed for AD only, not for OpenLDAP.

24.2 Web GUI

Correction: Configuring LDAP port 636 still resulted in traffic on port 389 from the Web and Embedded WS-API. (Encryption still worked, as the connection would then be auto-negotiated to port 636.) If port 636 is configured, the connections to the LDAP servers will now only use port 636. (*JIRA #1654, Dyn. #CAS-36916-Y6D4Q6*)

Note: Changed for AD only, not for OpenLDAP.

Correction: Resolved a potential security issue in the Self-Service web GUI. (*JIRA #1658*)

25 22.3.2

Server	22.3.2	Web GUI	22.3.2	Doc date	2018-10-30
Registry	22.3.2	Win client	22.3.4		
Database	22.3.2	Mac client	1.3.5		

Note: Does not include the changes introduced in server release 22.2.4.

25.1 Server

Enhancement: Optimized WS-API calls to database when fetching job lists, for improved performance. (*JIRA #1600*)

Also introduced in server release 22.2.3.

25.2 Web GUI

Correction: Resolved a potential security issue in the Self-Service web GUI. (*JIRA #1461*)

Also introduced in server release 22.2.3.

26 22.3.1

Server	22.3.1	Web GUI	22.3.1	Doc date	2018-09-20
Registry	22.3.1	Win client	22.3.3		
Database	22.3.1	Mac client	1.3.4		

Note: Does not include the changes introduced in server releases 22.2.3 and 22.2.4.

26.1 Server

Feature: WS-API made scalable for improved performance. A centralized cache enables quick session lookups using multiple worker threads. See also "Web GUI" below. (*JIRA #1345*)

Enhancement: WS-API LDAP lookups have been refactored and made more efficient for improved performance. (*JIRA #1478, ZD #3816 #3878*)

Enhancement, MMC: *Default Driver Model* column added in MMC printer lists. (*JIRA #1559*)

Enhancement: WS-API parameter change for improved stability prevents SetBlob web API from failing if storing blobs larger than 8000 bytes in the database. (*JIRA #1577*)

Correction: In some situations where message boxes should appear on clients (printing when there is no session / invalid session for the client, authentication enabled) the message boxes would be displayed blank. (*JIRA #1383*)

Correction: If a *Connection Refused* error occurred, an issue made the server instead send a *Connection Timed Out* message to the client. (*JIRA #1521*)

26.2 Database

Feature: Added support for macOS Mojave (10.14) driver deployments. (*JIRA #1567*)

Enhancement: Modifications made to optimize performance in the Hop2Hop functionality. (*JIRA #1451, ZD #3799*)

Enhancement: *InstallSQL* modified to increase the number of database locks being possible to allocate during upgrades. (*JIRA #1510, ZD #4036*)

Enhancement: Server-database access optimizations for improved server performance during high load of ticket registrations. (*JIRA #1527*)

26.3 Web GUI

Feature: Web GUI made scalable for improved performance, using a central store for session state data that can be run in multiple processes. See also "Server" above. (*JIRA #1345*)

Enhancement: Parameter modifications for improved compatibility with recent versions of SQL Native Client. (*JIRA #1456, ZD #3530*)

26.4 Standalone tools

26.4.1 Cirrato Configuration Manager

Feature: *General* → *Directory* → *Domains* → *Settings*: The *Hostname* field now supports a semicolon-separated list of LDAP hosts for use by the Web GUI. Other Cirrato components support the list format but will only use the first entry. (*JIRA #1551*)

Correction: *General* → *Directory* → *Domains* → *Advanced*: If an LDAP group filter different from the default value was entered in the *Group search filter* input field, it was not used by the Web GUI. (*JIRA #1531*)

26.4.2 Cirrato Navigator

Correction: Resolved, when printers had been placed on a map they could not be removed using Navigator's deletion feature. (*JIRA #1557*)

27 22.3.0

Server	22.3.0	Web GUI	22.3.0	Doc date	2018-04-18
Registry	22.3.0	Win client	22.3.2		
Database	22.3.0	Mac client	1.3.1		

Note: Does not include the changes introduced in server releases 22.2.3 and 22.2.4.

27.1 Server

Feature: Automatic card registration text now supports the Unicode Latin-1 character set (previously 7-bit ASCII). The entire text is now customizable. *CirratoTicketServer.exe -arm* command removed. (JIRA #309, ZD #1237 #2519)

Feature, MMC: New fields in the *New Printer / Printer Properties* dialogs: *Physical brand, Physical model, Serial number, Asset tag*. (JIRA #1107 #1118 #1121)

Feature, MMC: New checkboxes in *New Printer / Printer Properties* enable a printer for Follow Print / Simple Follow Print, and use an FP / Simple FP license. (JIRA #1052, ZD #1053)

Feature: SNMP e-mail alerts now also gives printer serial number and asset tag. (JIRA #1253)

Feature: TLS 1.2 support added.

Enhancement: Improved handling/logging of received corrupt data. (JIRA #1410)

Correction: Resolved a registry migration issue that could cause upgrades to fail if the old version had a very long auto-registration text message. Maximum length is now 4000 characters, longer texts will be truncated during upgrade. (JIRA #1078)

Correction, MMC, *New Printer* dialog: With some drivers, the MMC *Driver* selection window was too narrow to fit all information. (JIRA #1286, ZD #1103)

Correction: WS-API: Resolved minor license check issue. (JIRA #1375, ZD #3676)

Correction, MMC: In the *Printer Properties* dialog, the *LPR Queue Name* field could be empty if LPR protocol was selected. Field now has “lp” by default. (JIRA #1423)

27.2 Database

Feature: New printer object attributes to enable/disable printers for Follow Print / Simple Follow Print usage, and use an equivalent printer license.

Feature: New printer object attributes to record printers’ physical brands, physical models, serial numbers and asset tags, to facilitate fleet management. (JIRA #1107 #1118 #1121)

Feature: Report tables added to the *Log Trim* batch job. (JIRA #1116)

Feature: 8-bit ASCII / Unicode Latin-1 support added for auto-card registration. (*JIRA #1301*)

Feature: *SP Report_Monitor_Cirrato_Load* added to facilitate troubleshooting. The generated result set is suitable for MS Excel charts. (*JIRA #1419*)

Correction: Customer-specific issue; resolved. (*JIRA #1259, ZD #3315*)

27.3 Web GUI

Feature: License information in *About* dialog now includes usage count of Follow Print and Simple Follow Print licenses, given separately by printer brand. (*JIRA #1068*)

Correction: Corrected issue that could cause the *Queue Manager* printer list to display printers' region paths in the *Location* column instead of the *Region* column. (*JIRA #539, ZD #1738*)

Correction: Resolved issue in the *Statistics* tab that affected how results were displayed for regions/sub-regions. (*JIRA #1191, ZD #3220*)

Correction: In multi-page printer/queue lists under *Queue Manager* the current page was not highlighted in the numbered links at the bottom, so no indication was given which page was the current one. (*JIRA #1352, ZD #3530 #3604*)

27.4 Standalone tools

27.4.1 Configuration Manager

Feature: *Features* → *Cards* → *Card Number Sources*: Page redesigned to reflect new auto-card registration features. (*JIRA #309 #1196, ZD #1237 #2519*)

27.4.2 Print Management Client (PMC)

Feature: Installation procedure simplified. PMC now accesses database through PM and PUMA, setup per user with the *setting* command. (*JIRA #1292*)

Enhancement: Removed the *queue modify* option *--name*. (*JIRA #990, ZD #2907*)

Correction: Resolved an issue that made the *printer modify --ip* command unable to handle printer DNS names. (*JIRA #1217, ZD #3252*)

27.4.3 Report database

Feature: New ISP package, *TrimCirratoDW.dtsx*, for cleaning up old data. (*JIRA #1254*)

Correction: Addressed an issue that could make data loading into the report database fail due to mixed zero and NULL values. (*JIRA #1294*)

Correction: Resolved an issue that made data loading fail for certain language settings / database collations. (*JIRA #1302, ZD #3418*)

28 22.2.4

Server	22.2.4	Web GUI	22.2.4	Doc date	2019-05-20
Registry	22.2.4	Win client	22.3.3		
Database	22.2.4	Mac client	1.3.1		

28.1 Web GUI

Correction: Modifications to resolve a potential security issue in the Self-Service web GUI. (JIRA #1675, #CAS-38115-X4S7R9)

Correction: Resolved an issue with *Scrambled Read-Only* group settings. (JIRA #1682, # CAS-38371-LIV4G1)

29 22.2.3

Server	22.2.3	Web GUI	22.2.3	Doc date	2018-10-30
Registry	22.2.3	Win client	22.3.3		
Database	22.2.3	Mac client	1.3.1		

29.1 Server

Enhancement: Optimized WS-API calls to database when fetching job lists, for improved performance. (*JIRA #1600*)

29.2 Web GUI

Correction: Resolved a potential security issue in the Self-Service web GUI. (*JIRA #1461*)

30 22.2.2

Server	22.2.2	Web GUI	22.2.2	Doc date	2018-07-02
Registry	22.2.2	Win client	22.3.3		
Database	22.2.2	Mac client	1.3.1		

Limited release

30.1 Server

Correction, WS-API: A polling issue could set usernames to NULL, causing access violations that made the Cirrato application pool shut down. NULL values in job names, usernames and domains are now changed to empty strings. (*JIRA #1452, ZD #3576 #3923*)

Note: This correction is **not** included in server release 22.3.0. It is included in release 22.3.1 and later versions.

Enhancement: Modified logging behavior when printing is aborted, for improved clarity. (*JIRA #1312*)

Enhancement: Improved, printer protocol-specific logging of certain errors. (*JIRA #1378*)

Correction: If a driver update was triggered but the driver file was missing on the server, affected queue registry entries were deleted from the client. Server will now not trigger an update if the driver file is not found. (*JIRA #1072*)
(Complemented by a client-side correction in Windows client version 22.3.3.)

Correction: When client billing was enabled, the server could attempt an incorrect authentication method with Mac clients, making them unable to authenticate. (*JIRA #1203*)

Correction: Resolved a WS-API issue that would make card login fail if the server was set to "use raw card number", if the card number was hexadecimal. (*JIRA #1370*)

Correction: Addressed an issue that could cause multiple message boxes to appear on Mac clients when printing, if the session was invalid. (*JIRA #1394*)
(Client-side correction was made in client 1.3.2.)

Correction, MMC: In the *Printer Properties* dialog, the *LPR Queue Name* field could be empty if LPR protocol was selected. Field now has "lp" by default. (*JIRA #1423*)

30.2 Database

Enhancement: Index added to *tbl_alert_log* for improved performance (*JIRA #1425, ZD #3721*)

Correction: An issue could make direct print jobs get processed while Follow Print jobs were being released on the same printer, and get printed between them. Direct print jobs are now sorted after Follow Print jobs. (*JIRA #1359, ZD #3580*)

31 22.2.1

Server	22.2.1	Web GUI	22.2.1	Doc date	2018-01-30
Registry	22.2.1	Win client	22.3.1		
Database	22.2.1	Mac client	1.3.1		

Limited release

This release implements the **same** changes (in server, database, web) as server release 22.1.5. Release 22.2.1 contains all changes from 22.1.5, as well as changes that were introduced in server release 22.2.0.

32 22.2.0

Server	22.2.0	Web GUI	22.2.0	Doc date	2017-12-11
Registry	22.2.0	Win client	22.3.1		
Database	22.2.0	Mac client	1.3.1		

Note: This release does not include changes introduced in release 22.1.5.

32.1 Server

Feature, MMC: Visible and invisible queues are now shown with different icons in the *Scope* pane. Printers can no longer be marked as invisible. (JIRA #1057)

Feature, MMC: Printer lists in the *Printers* node now include printers' IP addresses. (JIRA #1058)

Enhancement, Auto-card registration: The registration code generator now avoids characters that look similar (e.g. the number 1, uppercase I, lowercase l) to reduce risk of user mistakes. (JIRA #423, ZD #2407)

Enhancement: Card number decimal conversion mechanism refactored and modified to support very large card numbers. (JIRA #1066, ZD #3018)

Correction, MMC: Resolved display issue with the *Brand* drop-down menu in the *Printer Properties* dialog. (JIRA #1228, ZD #3290)

32.2 Database

Feature: Added support for Microsoft SQL Server 2017 database server.

Feature: Added support for macOS High Sierra driver deployments.

Enhancement: Cirrato batch jobs refactored. Job run order and job defaults modified, SQL Agent batches made more efficient, SQL Agent logging improved. (JIRA #482)

Enhancement: Modification to prevent report batch crashes due to tickets with very large page counts. (JIRA #1104, ZD #3026)

Enhancement: Batch job *Update ShowContigOutput* removed; deprecated. (JIRA #1110)
Instead run the diagnostic query *sys.dm_db_index_physical_stats* when needed.

Enhancement: Batch job *Update statistics* removed. (JIRA #1112)
Instead use the option "Auto Update Statistics" under *Database Properties*.

Enhancement: Batch job *Queue speed* removed; deprecated. (JIRA #1114)

Correction: Customer-specific issue, resolved. (JIRA #1215, #3237)

Correction: Resolved issue that could cause script failure during database upgrades. (JIRA #1226, ZD #3218)

Correction: Printing to a printer with “unknown” network print protocol gave an incorrect error message. (JIRA #1261)

32.3 Web GUI

Feature: The *Printer Information* window now also includes the printer's IP address or hostname. (JIRA #1061)

Feature: The *Printer Information* window can now be set to include the printer's SNMP Community name. (JIRA #1063)

Enhancement: In the "info" dialog under *Queue Manager/View All Queues*, removed four rows with information on queue speed; deprecated. (JIRA #1127)

Correction: Resolved an issue that made the *Support* tab only show the latest log row for a ticket. (JIRA #997, ZD #2924)

Correction: Resolved an issue that could make printer/queue logs (the “Log” links under the *Queue Manager* and *Monitoring* tabs) appear empty. (JIRA #1181, ZD #3189)

Correction: Resolved an issue that could make job searches in the *Statistics* tab not return any results. (JIRA #1249)

32.4 Standalone tools

32.4.1 Server Installer

Enhancement: Installer routine for SQL server connection modified for improved reliability. (JIRA #494)

32.4.2 Configuration Manager

Feature: *Features* → *Properties*: Search field added. (JIRA #995)

Feature: *Programs* → *Web GUI* → *Features*: Added checkbox to make SNMP Community name visible in the Web GUI *Printer Information* window. (JIRA #1063)

Enhancement: *Features* → *Cards*: *Card Number Sources* and *HID* tabs redesigned. (JIRA #1066, ZD #3018)

Enhancement: Additional license information added in the *Help/About* dialog. (JIRA #1170)

32.4.3 CirratoPak

Feature: By default, CirratoPak now creates configuration files using *rundll* for improved reliability. (JIRA #380)

Note: Requires client version 20.2.3 or later.

To use the old format, start CirratoPak from a command prompt with *cirratopak.exe /v1config*

32.4.4 Report Database

Feature: From version 1.2.1, the cube reporting platform can be upgraded without first deleting the old report database. (JIRA #373)

Feature: From version 1.2.2, added functionality for cleanup of staging tables. (JIRA #1176)

33 22.1.5

Server	22.1.5	Web GUI	22.1.5	Doc date	2018-01-30
Registry	22.1.5	Win client	22.3.1		
Database	22.1.5	Mac client	1.3.1		

33.1 Server

Correction: Resolved issue with a slow server query that could cause the Cirrato MMC to crash. (*JIRA #1314*)

Correction: Deletion of expired Follow Print terminal sessions was done after a time that was much longer than the time set in the *ClearSession* property. (*JIRA #1330, ZD #3536*)

33.2 Database

Correction: Resolved issue that could cause the Cirrato Printer Monitor service to crash. (*JIRA #1326, ZD #3541*)

33.3 Web GUI

Correction: Modifications in web components to resolve an issue that made the web GUI intermittently become inaccessible under high load. (*JIRA #1232, ZD #3284 #3431 #3450*)

34 22.1.4

Server	22.1.4	Web GUI	22.1.4	Doc date	2017-10-18
Registry	22.1.4	Win client	22.2.0		
Database	22.1.4	Mac client	1.3.0		

34.1 Server

Correction: Resolved an issue that broke the handover functionality when printing using the IPP or IPPS protocols. (*JIRA #1153, ZD #3096*)

Note: Due to recent changes, handover backwards compatibility is not guaranteed with Windows clients older than version 2.0.23.

Correction: Resolved an issue that made the server not read handover requests from Windows clients (as set in the client setting *HandoverPreference*). (*JIRA #1177, ZD #3188*)

34.2 Standalone tools

34.2.1 Server Installer

Enhancement: Installation procedure of Cirrato services modified to remove a potential vulnerability. (*JIRA#1064, ZD #3049*)

34.2.2 Cirrato Control Centre

Feature: Implemented Single Sign-On / auto-login feature, usable for all tools on the Cirrato Control Centre web platform. (*JIRA #517*)

34.2.3 Print Management Client (PMC)

Correction: Resolved an issue that made PMC login not possible if Single Sign-On had been enabled on the Cirrato web GUI. (*JIRA #610 #999, ZD #2956*)

35 22.1.3

Server	22.1.3	Web GUI	22.1.3	Doc date	2017-09-12
Registry	22.1.3	Win client	22.2.0		
Database	22.1.3	Mac client	1.2.4		

35.1 Server

Correction: Resolved an issue that made the handover feature, when enabled, cause memory leaks in the Cirrato Ticket Server service. (*JIRA #1102, ZD #3067 #3111*)

36 22.1.2

Server	22.1.2	Web GUI	22.1.2	Doc date	2017-08-31
Registry	22.1.2	Win client	22.1.1		
Database	22.1.2	Mac client	1.2.3		

36.1 Standalone tools

36.1.1 Server Installer

Correction: Resolved an issue that could make Windows' *Software Restriction Policies* feature cause the Cirrato server installation to fail. (*JIRA #1016*)

37 22.1.1

Server	22.1.1	Web GUI	22.1.1	Doc date	2017-08-11
Registry	22.1.1	Win client	22.1.1		
Database	22.1.1	Mac client	1.2.3		

Limited release

37.1 Server

Correction: MMC display issues could occur in the *Queue Properties* dialog if local driver deployments had been created with the Phased Driver Rollout tool. (*JIRA #1003*)

Correction: Resolved issue that could cause the Cirrato Printer Monitor service to crash in case of database deadlocks. (*JIRA #1009*)

38 22.1.0

Server	22.1.0	Web GUI	22.1.0	Doc date	2017-06-30
Registry	22.1.0	Win client	22.0.0		
Database	22.1.0	Mac client	1.2.2		

Limited release

38.1 Server

Feature: MMC, “Color capable” is now a configurable option when adding/editing printers. This allows, for example, all jobs from B&W-only printers to be flagged as B&W for accurate reports and accounting. (*JIRA #216 #530*)

Enhancement: Removed support for external plotter counters; deprecated feature. (*JIRA #210*)

Enhancement: Auto-card registration stability improvements. (*JIRA #960*)

Enhancement: *CirratoPrinterMonitor* service refactored to read all settings from database instead of server registry. (*JIRA #973*)

Correction: Resolved server-side issue that made region names in *CirratoSearch* appear cut if they were longer than 31 characters. (*JIRA #897, ZD #1076*)

Correction: Resolved issue that made the *disableSession* property not functional. (*JIRA #941*)

38.2 Database

Enhancement Modifications for improved performance in *Cirrato Printer Monitor* service. (*JIRA #943*)

Correction: Resolved an issue that sometimes made the times when errors were detected not appear in the *Web GUI Monitoring* page. (*JIRA #648, ZD #918*)

38.3 Web GUI

Correction: Resolved an issue that caused queues set as “invisible” to be visible in the Self-service web. (*JIRA #936, ZD #1700*)

38.4 Standalone tools

38.4.1 Configuration Manager

Feature: *WSAPI* → *Cirrato Control Center*: Added field, *Reception Portal Groups*, for AD group(s) of non-admins allowed to use the *Reception Portal* feature. (*JIRA #230*)

Enhancement: *WSAPI* → *Cirrato Control Center*: Removed *Supported Languages* menu, language selection moved to the Cirrato Control Centre web GUI. (*JIRA #889*)

Enhancement: *Features* → *Handover*: IP validation added for creating/updating handover points. Hostname no longer used when creating a handover point. (*JIRA #967*)

Correction: *Features* → *Handover* → *Handover Rule*: An issue caused some properties to not be saved properly if the keyboard was used to navigate the menus. (*JIRA #948*)

38.4.2 Cirrato Control Centre

Feature: Reception Portal, new web-based tool for checking and unregistering access cards, that can be used by trusted non-administrators (such as receptionists). (*JIRA #230*)

Feature: Language selection menu added in login screen; supported languages are English, French and Swedish. Added language support for French. (*JIRA #889*)

Correction: Queues that were set as “invisible” were still visible for non-administrators in the Navigator tool. (*JIRA #411*)

38.4.3 Print Management Client (PMC)

Feature: *Printer add, printer modify*: New *--colorcapable* option can flag printers as color printer or B&W-only printer. This allows, for example, all jobs from B&W-only printers to be flagged as B&W for accurate reports and accounting. (*JIRA #530*)

38.4.4 Reports (legacy reporting platform)

Feature: New installation script replaces old manual Report Server setup procedure. (*JIRA #916*)

Enhancement: Modified language and numbering formatting for improved ease of use. (*JIRA #840*)

39 22.0.1

Server	22.0.1	Web GUI	22.0.1	Doc date	2017-06-09
Registry	22.0.1	Win client	22.0.0		
Database	22.0.1	Mac client	1.2.1		

39.1 Server

Feature: Added support for Microsoft Windows Server 2016 operating system. (*JIRA #393*)

Feature: Added backend support for setting triggers in MS Event Viewer to launch applications when license expiry warnings appear in the event log. (*JIRA #842*)

Feature: Redesigned “default handover point” feature, keeping the old functionality and being fully compatible with the HoP2HoP feature. (*JIRA #919*)

Enhancement: Refactoring for improved performance when Follow Print jobs are released using handover. (*JIRA #285*)

Correction: Follow Print issue with “number of copies” settings resolved. Settings made on printer panels were not used, always printing one copy, and in some cases jobs were not printed if the number of copies was changed. (*JIRA #334, ZD #2524 #2558 #2596*)

Correction: MMC, resolved a display issue that caused region names to be cut if they contained more than 31 characters. (*JIRA #542, ZD #1076*)

Correction: Resolved server issue that made CirratoSearch and Windows’ *Devices and Printers* display printer locations with full region path, regardless of setting of the *showFullRegionPath* property. (*JIRA #586, ZD #690*)

39.2 Database

Feature: Added Windows Server 2016 driver deployments. (*JIRA #393*)

Feature: Added support for Microsoft SQL Server 2016 database server. (*JIRA #888*)

Enhancement: *Log trim batch* job defaults modified for improved concurrency. (*JIRA #917, ZD #2565*)

39.3 Standalone tools

39.3.1 Server Installer

Feature: *Product License* page updated and moved to an early part of the installation procedure. Installer now checks license file validity (including expiry date) before installation, and automatically checks validity of an existing license file before an upgrade. (*JIRA #855*)

39.3.2 Configuration Manager

Correction: Resolved issue that would trigger a User Account Control warning about “unknown publisher” when the Configuration Manager was started. (*JIRA #853*)

39.3.3 CirratoPak

Correction: Resolved character handling issue. When a driver was uploaded, its supported brand and models were not added in the database (making the driver not possible to deploy or use) if the driver brand name contained an apostrophe/single quotation mark ('). (*JIRA #359, ZD #723 #811 #2071 #2555*)

Correction: Resolved issue that, when starting the application from the Cirrato MMC, could make the CirratoPak GUI open behind the MMC window. (*JIRA #609*)

39.3.4 Print Management Client (PMC)

Feature: *Printer add, printer modify*: New options *protocol, uri, and securemethod* allow setting/changing printer protocol, including IPP and IPPS. (*JIRA #215*)

39.3.5 Reporter

Correction: Resolved an issue that made the Reporter tool not possible to start. (*JIRA #399*)

39.3.6 Report Database 1.2.0

Feature: *Setup CirratoDW*, new installer application for automatic installation and deployment of the Cirrato Report Database. (*JIRA #372*)

Enhancement: Data type modification enables cube reporting platform to load jobs with large (>32,000) numbers of pages. (*JIRA #421*)

40 22.0.0

Server	22.0.0	Web GUI	22.0.0	Doc date	2017-05-02
Registry	22.0.0	Win client	22.0.0		
Database	22.0.0	Mac client	1.2.1		

Note: Cirrato server 22.0.0 is required for Windows client 22.0.0; the client is not backwards compatible with older servers.

40.1 Server

Component name change valid from this release:

Old name	New name	Type
<i>CirratoSrvDLL.dll</i>	<i>TicketServerInterface.dll</i>	Filename

Feature: Implemented support for printing using IPP and secure IPPS protocols.
MMC: *New Printer* and *Printer Properties* dialogs updated. (TFS #13053 #13817)

Feature: WS-API – added support for using dynamic LDAP attribute calls when configuring the Scan Destinations feature. (TFS #13798)

Feature: Cirrato license system refactored. License files can now be generated with an expiry date for subscription-type installations. Server’s license handling and messaging updated to support this functionality. “Demo license” functionality removed; deprecated. (JIRA #219, TFS #13959 #14017 #14018)

Feature: Added possibility to remove queues from Windows client that are unknown to the server. New property: *DeletePrinterOnUnknownQueue*. (TFS #13588, ZD #1132 #1377)
Note: Includes changes both in server/database and in Windows client.

Enhancement: Improved error messaging to event log if the Cirrato Ticket Server cannot write to the server registry. (TFS #12255)

Enhancement: MMC, *Migration* node; removed the deprecated options "Force Migrate" and "Force Migrate Local" from the *Migration Block IP* dialog. (TFS #13939)

Enhancement: Deletion mechanism of jobs that reach TTL refactored and optimized for enhanced performance. (TFS #14042, ZD #2273)

Correction: MMC, *Locale* driver variable; a generic driver without locale would be installed before locale-specific drivers that matched the given Locale value. (TFS #13175, ZD #1017)

Correction: Resolved server issue that, if client sessions were not authenticated, could block some client operations that did not require authentication. (TFS #13785)

Correction: MMC; creating a Short ID rule could crash the server if certain fields in the *New Short ID Rule* dialog were left empty. (TFS #13862)

Correction: If a job was submitted to a stopped queue, no error message was sent and the job would remain unprinted in queue until deleted by TTL. (TFS #13883)

Correction: Resolved issue: If a print job was submitted to a deleted queue, the job was deleted by the server but printed by the client in redundancy mode. (TFS #13902)

Correction: Resolved dispatcher issue that would make SQL queries take up 100% CPU after upgrading. (TFS #13913)

40.2 Database

Feature: Added support for redacting selected information when cube reporting data is moved from Cirrato print database to report database. (JIRA #229)

Feature/Enhancement: New/updated properties to support enhanced queue cleanup ability in Windows client, taking effect at printing, queue installation, and running *cirrato.exe /update*.

New property: *DeletePrinterOnUnknownQueue* (default 0): Set to 1 to delete queues from Windows client if they have never existed on the current server.

New default: *DeletePrinterOnNonExistingQueue*: default 1. (TFS #13588, ZD #1132 #1377)

Enhancement: *Tbl_property* general cleanup. Improved property type handling. Removed the following deprecated properties:

- *CardReaderService* property group: *ActionOnCardSwipeSendToIP*, *ActionOnCardSwipeSendToPrinter*, *ActionOnCardSwipeSendType*.
- *JBA* property group: *PurgeLevel*, *PurgeWindowBegin*, *PurgeWindowEnd*. (JIRA #244)

Correction: Resolved issue – an unusual character in one default property value could cause an error message to appear when opening the *installSql.sql* script. (JIRA #245)

40.3 Web GUI

Correction: If Windows was set with Turkish regional date/time settings, the login page *Domain* and *Language* menus became empty, making login impossible. (TFS #13858, ZD #1894)

Correction: Resolved an issue that made searches in the *Client Billing* and *Quota* tabs return erroneous error messages if some fields were empty. (TFS #13945)

40.4 Standalone tools

40.4.1 Server Installer

Enhancement: The service account set during installations with Windows Authentication is now granted "log on as a service" rights automatically. It was previously a prerequisite that the account had been granted these rights in advance. (TFS #4428)

Enhancement: Refactored web installation; x86 and x64 web MSIs merged into one MSI. (TFS #13871)

Correction: Resolved an upgrade issue where, when using Windows Authentication, the service account was removed and replaced with the *Local System* account. (TFS #14038)

Correction: The service account was not automatically given write permission to the server registry, causing the Registry Migration feature to fail during upgrades. (TFS #14056)

40.4.2 Configuration Manager

Enhancement: *Programs* → *Web GUI* → *Impersonate*: Redesigned for improved usability. (JIRA #331)

Enhancement: *Features* → *Scan Destinations*, all tabs except *NCP*: Cleanup of settings for improved usability, and supports dynamic LDAP attributes in relevant fields. (TFS #13798)

Correction: *Programs* → *Web GUI* → *Impersonate*: Resolved encryption issue that made Cirrato web site authentication settings inaccessible in IIS Manager if a password had been entered and saved in this tab. (JIRA #331, TFS #11980)

Correction: *Features* → *Card* → *Card Number Sources*: The *Auto Registration Text* field accepted non-ASCII characters, resulting in the registration page not being printed. Such characters are now replaced with [SPACE] when saved. (TFS #13933, ZD #1981)

Correction: Resolved a display issue that made the *Save* and *Discard* buttons not fully visible on all pages. (TFS #13947)

40.4.3 Cirrato Control Centre

Feature: *Data Redaction*, new web-based tool for tailoring how personal information is displayed in reports, in order to comply with local company policies or national legislation on personal data security. (TFS #13962)

Correction: Phased Driver Rollout; if the region structure included orphaned regions, the *Region/Queue View* feature would not display the region tree. Orphaned regions are now excluded from the view. (TFS #12688)

41 21.0.3

Server	21.0.3	Web GUI	21.0.3	Date: 2017-02-24
Registry	21.0.3	Win client	21.5.0	
Database	21.0.3	Mac client	1.1.1	

41.1 Server

Correction: Resolved an issue that made the Follow Print “proof print” feature cause a delay of 1 minute before another job could be printed. (TFS #14046)

Correction: When using proof print, or printing multiple copies from an embedded terminal, jobs could become logged with double log entries. (TFS #14046)

Correction: Resolved a dispatcher issue that could result in some jobs not being printed when multiple Follow Print jobs were released at once. (TFS #14050, ZD #2129)

Correction: A registry migration issue could make handover and authentication rules not work after an upgrade unless the *CirratoTicketServer* service was restarted. (TFS #14068)

Correction: Resolved an issue with released Follow Print jobs not being moved to handover points correctly. (TFS #14076)

41.2 Database

Correction: Modifications to avoid table locks when multiple rows are deleted from *tbl_ticket* (for example, when a number of jobs reach TTL simultaneously). (TFS #14042, ZD #2273)

42 21.0.1

Server	21.0.1	Web GUI	21.0.1	Date: 2017-01-18
Registry	21.0.1	Win client	21.5.0	
Database	21.0.1	Mac client	1.1.1	

42.1 Server

Correction: Authentication rules in an existing installation were not properly migrated at an upgrade. (TFS #13980, ZD #2096)

Correction: Resolved an issue that made authentication rules only work for one job; subsequent jobs were tagged with local username and MAC address. (TFS #13998, ZD #2128)

Correction: Printing to a Follow Print queue from the Cirrato server with the “Force handover on FP jobs” setting enabled, deleted the ticket from the spool directory. (TFS #14001, ZD #2107 #2126)

Correction: When releasing Follow Print jobs on a terminal using the “Retain” button, the jobs were still deleted afterwards. (TFS #14007, ZD #2109)

43 21.0.0

Server	21.0.0	Web GUI	21.0.0	Date: 2016-10-17
Registry	21.0.0	Win client	21.4.0	
Database	21.0.0	Mac client	1.1.1	

43.1 Server

Feature: Ticket Server supports lookups of nested AD groups (assuming standard AD setup). Lookups from e.g. Cirrato Control Centre or PMC not yet supported. (TFS #2307)

Feature: Printer Pools – new queue type distributes jobs between associated printers, for load balancing and/or failover. New MMC node: *Printer Pools*. (TFS #13264 #13273)

Feature: Hop2Hop – handover functionality replaced by new design that also lets handover points send jobs to other handover points. Existing handover configurations are automatically migrated on upgrade. (TFS #13373)

Feature: Redirection Queue – new rule type can redirect jobs to different printers based on the originating clients' IP addresses. New MMC node, *Redirection queues*, for creating the source queues used by redirection rules. (TFS #13479 #13482 #13483)

Feature: Added notifications for automatic assignment queue routing. (If no rule match, send message to user.) (TFS #13486)

Feature: Server sending Follow Print redundancy data to client after printing, is now also done after proof-print printing. (TFS #13599, ZD #1437)

Enhancement: MMC – improved handling of the *Pages* setting in Page Limiter rules. It now sets the minimum (same or higher) number of pages to trigger a rule, so if *Pages*=0 the rule applies to all jobs. (TFS #3048)

Enhancement: Improved exception logging in parser. (TFS #8237, OTRS #405338)

Enhancement: Most of the Cirrato server registry has been moved to the Cirrato database (in *tbl_property*). Registry settings in existing installations are automatically migrated to the database on upgrade. (TFS #12432)

Enhancement: Refactoring of cached client session handling, for improved stability and performance under heavy server load. (TFS #12959)

Simplified configuration: Sessions can now either be disabled, or enabled with cached sessions and background writes to database. Settings used: *disableLogout*, *disableSession*. The settings *useSessionQueue*, *sessionQueueSize*, *useSessionCache* and *cachedSessionDb* are deprecated.

Enhancement: Improved security in generation of automatic card registration codes and Short IDs. (TFS #13073, ZD #636 #1013)

Enhancement: Improved support for releasing large numbers of Follow Print jobs (~1000) at once. Previously, this could cause the *Release All* command to fail. (TFS #13411)

Enhancement: Improved service stability. Previously, issues could arise if the first queue installations after service start took place in rapid succession. (TFS #13439)

Correction: In the upgrade procedure, registry migration was run before checking that the installed database was the correct version. If an old database, this would result in misleading error messages when installation/startup failed. (TFS #12948, ZD #661)

Correction: MMC – resolved an issue that could result in a queue being listed with multiple different configurations in the *Drivers* node. This symptom was also visible in the PMC. (TFS #13075, ZD #1008)

Correction: Alarms – removed repeated alarms. Previously, printers in “service needed” status could continuously trigger new notifications being sent out. (TFS #13328, ZD #1275)

Correction: Username translation based on client IP scope (in the Configuration Manager, the *Authentication Rules* setting “Change User (IP)”) did not work. (TFS #13791)

Correction: Resolved issues with client billing functionality: If a billing code was set as valid for “This Job Only”, it would instead get set as valid for 15 minutes. If a code was valid for a time period and the user printed to a queue with a client billing rule, the server could crash. If a code was valid for a time period and the user initiated a new *Client Billing* dialog, only the code would be shown in it, not the code’s name. (TFS #13800)

43.2 Database

Feature: Added deployment support for macOS 10.12 Sierra.

Feature: New cube-based reporting platform. Uses a separate report database, supports creating custom reports. (Old reporting platform is still part of the product.) (TFS #11084)

Feature: Database changes supporting the new Hop2Hop feature. (TFS #13373)

Feature: New connector utility supporting Xerox Print Awareness Tool (XPAT). (TFS #13494)

Note: Available on request – not included in the Cirrato release package.

Feature: Database modifications to support the Redirection Queue feature. New minor codes for successful/failed print job redirection: 20/95, 50/94. (TFS #13538 #13539)

Enhancement: Logging module has been made independent of application-specific values. The *eventLog* property / server registry value removed; deprecated. (TFS #13165)

Enhancement: Modifications to improve database stability when releasing large numbers of Follow Print jobs (~2000) at once. Previously, large numbers of consecutive printer status updates could cause database deadlocks. (TFS #13503)

Enhancement: The table *tbl_cirrato_client_version*, used to blacklist selected client versions (typically because they are very old), is now cached.

Note: If changes are made in the table, the Cirrato server must be restarted for the changes to take effect.

Correction: Modified a database function checking for valid UIDs, which had caused issues with JBA updates. (TFS #12459)

Correction: Database installation script modified to remove a conflict that could occur during upgrades if the *tbl_driver_file_models* table had orphaned rows. Such orphaned rows are now deleted by the installation script. (TFS #12754, ZD #620)

Correction: Corrected error that could make ticket logging fail if there were wildcards (*) in the *INSERT* statement. (TFS #12823)

Correction: The minor error code IDs 92 (PR_PRINTER_NOT_ACCEPTING_JOBS) and 93 (PR_PRINTER_NOT_ACCEPTING_JOBS_MOVED_TICKET_FORWARD) were not added to *tbl_minor*. The major ID paired with minor ID 5 (PR_NO_CONTACT_WITH_PRINTER) changed from 21 (TICKET_ERASED_MANUAL) to 39 (TICKET_ERROR). (TFS #13033)

Correction: Resolved an issue that would make the columns *OtherBWSimplex* and *OtherColorSimplex* always appear empty in reports. (TFS #13137, ZD #1045)

Correction: Database login setup and installation script modified to prevent issues with SQL Server instances running on other languages than English. (TFS #13226)

Note: Database and admin logins are now set to English by default.

43.3 Web GUI

Feature: *Queue Manager* page: Added new *Printer Pools* sub-tab. (TFS #13379)

Correction: *Quota* → *Rules* tab: When creating a rule, selecting an umbrella displays a list that shows AD groups within that umbrella. Resolved an issue that made this list not appear if it contained a large number of groups. (TFS #13443, ZD #1091)

43.4 Standalone tools

43.4.1 Configuration Manager

Feature: *Programs* → *MMC* → *General*: Added checkboxes for enabling/disabling the *Printer Pools* and *Redirection Queues* features. (TFS #13273 #13499)

Feature: *Features* → *Handover* → *Handover Rules*: The *Print Mode* menu replaced with new *Rule Type* menu supporting the Hop2Hop feature. (TFS #13487)

Enhancement: *Features* → *Handover* → *General*: Tab redesigned for usability. The “Printer based” setting deprecated, replaced with rule types in *Handover Rules* tab. (TFS #13487)

Enhancement: *Features* → *Web GUI* → *Directory Group & Login*: Removed deprecated field forcing user domain on Toshiba devices; default domain is now used. (TFS #13828)

Correction: *Feature* → *Scan Destinations* → *SMB*: Display modification for improved usability. This also prevents an issue that could cause login problems on Ricoh terminals when Scan functionality was enabled. (TFS #2800)

Correction: *Features* → *Scan Destinations* → *SMB*: Resolved an issue that caused the value entered under SMB Path to not be used. (TFS #12340, ZD #369)

Correction: Resolved an issue with non-default driver paths being reset to factory default when upgrading. (TFS #12398, ZD #394)

If an existing driver path is not default and the folder it points to exists, the path is now kept after an upgrade. If the non-default folder does not exist, the default path is used.

Correction: *Features* → *Scan Destinations* → *Email*: Resolved an issue that caused the value entered under "To email" to not be used. (TFS #12865)

Correction: *Features* → *Authentication* → *General*: Corrected issue that made the *Allow guest prints* checkbox not functional. (TFS #13828)

43.4.2 Cirrato Control Centre

Feature: Redirection Queue – new web-based tool for creating, modifying, and deleting redirection rules (using redirection queues created in the Cirrato MMC). (TFS #13471 #13474 #13477)

43.4.3 Print Management Client (PMC)

Feature: Functionality for printer pool queues added. New commands: *pool addprinter*, *pool modifyprinter*, *pool deleteprinter*, *pool list*. New *queue add* option: *--ppq*. (TFS #13379)

Feature: Functionality for redirection queue rules added. New commands: *rdrule list*, *rdrule get*, *rdrule add*, *rdrule modify*, *rdrule delete*. New *queue add* option: *--rdq*. (TFS #13470 #13473 #13476 #13609)

Feature: New *get* command class, displays verbose level information (the same information returned by a *list -v* command) about one single entry. New commands: *region get*, *printer get*, *queue get*, *brand get*, *model get*, *driver get*, *deployment get*, *configuration get*. (TFS #13618)

Feature: All *add*, *modify*, and *delete* commands: Target can now also be given with the option *--id*. (TFS #13618)

Enhancement: Login: The *-d / --domain* option is now case insensitive.

Enhancement: *Printer add*: The *--ip* option now supports using printer DNS name as value. (TFS #12602)

Enhancement: Restriction on *queue modify* removed. Previously, a queue's model could only be changed if the old and new models belonged to the same brand. (TFS #12836)

Correction: Corrected error in the way PMC calculated IP addresses numerically. (TFS #13340)

Correction: New default values when adding a printer. *NextCheck* is set to "DateTime.Now" (it was previously set to NULL), *SNMP index* is set to 1. (TFS #13619, ZD # 1371)

43.4.4 Driver Transfer between Systems (DTS)

Correction: Resolved an issue with the DTS components' filter functions that could result in conflicts because of unnecessary data. (TFS #13329)

44 20.2.9

Server	20.2.9	Web GUI	20.2.9	Date: 2017-01-27
Registry	20.2.9	Win client	21.1.0	
Database	20.2.9	Mac client	1.1.1	

Limited release

44.1 Server

Correction: Corrected memory dump behavior as controlled by the *Mdumtypedptsrv* property. (TFS #13589)

Correction: Resolved an issue where a rule set to delete a job would not prevent printing of the job, instead the client was triggered to make a redundancy printout. (TFS #13666)

45 20.2.8

Server	20.2.8	Web GUI	20.2.8	Date: 2016-07-15
Registry	20.2.8	Win client	21.1.0	
Database	20.2.8	Mac client	1.1.1	

Limited release

45.1 Server

Feature: Added possibility for WS-API to save BLOBs (including session data) or strings in the database, for improved compatibility with printer-embedded software. (TFS #13622)

46 20.2.7

Server	20.2.7	Web GUI	20.2.7	Date: 2016-06-13
Registry	20.2.7	Win client	21.1.0	
Database	20.2.7	Mac client	1.1.1	

Limited release

Component name changes valid from this release:

Old name	New name	Type
Cirratosrv	CirratoTicketServer	Service name
<i>dptsrv.exe</i>	<i>CirratoTicketServer.exe</i>	Filename
Cirrato printing service	Cirrato Ticket Server	Service display name
Cirratomon	CirratoPrinterMonitor	Service name
<i>dptmon.exe</i>	<i>CirratoPrinterMonitor.exe</i>	Filename
Cirrato monitoring service	Cirrato Printer Monitor	Service display name
<i>CirratoSrv</i>	<i>CirratoTicketServer</i>	Server registry key
<i>dptrpt.exe</i>	<i>CirratoReporter.exe</i>	Filename

46.1 Server

Correction: Users trying to register cards using the “register at terminal” function were locked out if they entered an incorrect password once, even if the AD policy was set to allow more attempts. (TFS #13450, ZD #1399)

46.2 Web GUI

Correction: Self-service web, *Card Registration* page: Confusing message texts changed for improved clarity, new “registration successful” message box added. (TFS #12811, ZD #859 #1237)

Correction: *Queue Manager* page: Improved support for large region trees. Previously, navigating a region tree that contained very large numbers of regions and/or sub-regions could cause internal web server errors. (TFS #13326, ZD #1191)

47 20.2.5

Server	20.2.5	Web GUI	20.2.5	Date: 2016-04-22
Registry	20.2.5	Win client	21.1.0	
Database	20.2.5	Mac client	1.1.1	

Note: Cirrato server 20.2.5 (or later) is required for Windows client 21.1.0.

47.1 Server

Enhancement: Modified the way MMC handles SNMP index, to ensure compatibility with bidirectional client communication. It also resolves an issue with the MMC crashing if SNMP index was set to a value greater than 1. (TFS #13178)

Correction: Resolved issue where a failed printer DNS lookup could cause the server to retry sending a Follow Print job several times per second, affecting performance and CPU usage. **Note:** Corrected for Follow Print, not for direct printing. (TFS #13206, ZD #1065 #1138)

Correction: Resolved an issue with authentication rules not being properly applied on Windows clients. (TFS #13221, ZD #939)

47.2 Database

Enhancement: Modified the way SNMP index values are stored in the database. (TFS #13178)

47.3 Web GUI

Correction: Self-service web, *My Jobs* page: Corrected Japanese translation of a header and message text. (TFS #13184, ZD #1086)

47.4 Standalone tools

47.4.1 Print Management Client (PMC)

New commands: *deployment add*, *deployment modify*, *deployment delete*. (TFS #12086)

48 20.2.4

Server	20.2.4	Web GUI	20.2.4	Date: 2016-03-18
Registry	20.2.4	Win client	21.0.0	
Database	20.2.4	Mac client	1.1.1	

48.1 Server

Feature: Added possibility to intentionally trigger redundancy printing in case of server problems. New registry settings: *debug\disablePrintRequest*, *debug\disable3rdPrintData*. (TFS #12726)

Enhancement: Some registry default values changed for improved performance/stability in large installations. (TFS #12641)

Correction: Resolved an issue that could cause a server crash if a Follow Print user tried to print (release a Follow Print job) without having any jobs in queue. (TFS #12736, ZD #739)

Correction: WS-API: When calling *GetLoginPageFeatures*, if the MFP IP address was set to 0 or 0.0.0.0, IIS would crash and the server stop. Request now returns “Cannot find printer”. (TFS #12749)

Correction: Unauthenticated LPR submissions and authentication rules could not be used at the same time; doing so could cause the printing service to crash. (TFS #12766, ZD #733)

Correction: Resolved an issue that made the Cirrato MMC crash when a deployment was added to a driver, if another copy of the same driver existed and was used by a queue with an associated configuration. (TFS #12864, ZD #852 #1043)

Correction: Modified session cache handling for improved performance when multiple client session requests puts load on the server. (TFS #12872, ZD #864)

Correction: The registry value *CirratoSrv\debug\disableSession* disabled client session handling and storing sessions in database, but not session cache loading. (TFS #12925)

48.2 Database

Enhancement: Some property default values changed for improved performance/stability in large installations. (TFS #12641)

Correction: *InstallSQL.sql* would stop with an error when renaming indexes, if database contained manually added or renamed tables with a dot in the name. The script now filters out and ignores such tables when renaming indexes. (TFS #12406)

Correction: Table columns modified to prevent the monitoring service from crashing due to too long strings written to database. (TFS #12787, ZD #739)

48.3 Web GUI

Feature: *Monitoring* tab: New drop-down menu allows search filtering to show all queues, only queues that contain jobs, or only queues that contain no jobs. (TFS #12694)

Feature: *Monitoring* tab: Added button to export queue lists to a .csv file. (TFS #12695)

Correction: If there are multiple domains, the default domain is now pre-selected in the domain selector drop-down on the web login page. (TFS #12753, ZD #743)

Correction: Modified web header text that identifies the logged in user. If no defined user role is found, the text now reads "Logged in as <username>". (TFS #12808, ZD #866)

48.4 Standalone tools

48.4.1 Cirrato Configuration Manager

Enhancement: *Features* → *Embedded Terminals* → *PinCode: Number of Connections to PIN-code database* default setting changed to 0 (disabled). (TFS #13003)

Correction: *Features* → *Embedded Terminals* → *PinCode: Under Require PIN for follow-print*, corrected a display issue with the *All jobs* radio button. (TFS #13005)

Correction: *Features* → *Rules* → *General: The Send LPR Username* setting “Send DOMAIN\username as LPR Username” was mislabeled; supplanted by new setting with the same name. Old setting kept for backwards compatibility, correctly renamed “Send username\DOMAIN as LPR Username”. (TFS #13027)

48.4.2 Cirrato Reporter

Correction: Corrected issue that made the Cirrato Reporter never finish when run on Windows Server 2012 R2. (TFS #12734, ZD #719)

48.4.3 Print Management Client (PMC)

Feature: Enhanced support for enabling/disabling SNMP monitoring with the *printer modify* command; the option *-snmpa* now uses *y* and *n* values. (TFS #12834)

Feature: Enhanced support for adding/removing configurations with the *queue modify* command. New options *-ac* (add config), *-rc* (remove config); both support multiple values in comma-separated lists. (TFS #12835)

48.4.4 Phased Driver Rollout (PDR)

Enhancement: PDR now also supports running on servers using the WebDAV Publishing server role. (TFS #12709)

48.4.5 Driver Transfer between Systems (DTS)

Enhancement/Correction: Various improvements of the DTS tool set:
Connection string improvements. Improved error handling of database connection errors.
Resolved issue with not all models for a driver being loaded. Resolved issue with export of alternative models when using filters. Issue with handling of built-in drivers resolved.
(TFS #12899)

48.4.6 Documentation

Correction: Removed an old version of the Cirrato documentation that had been erroneously inserted into the server installation package. The correct documentation is delivered separately from the Cirrato software.

49 15R1 20.2.3

Server	20.2.3	Web GUI	20.2.3	Date: 2015-12-18
Registry	20.2.3	Win client	20.2.3	
Database	20.2.3	Mac client	1.1.1	

49.1 Server

Feature: Server can be set to disconnect clients that submit jobs to non-existing queues, triggering redundancy print of those jobs. To use, set the server registry value *deletePrinterOnNonExistingQueue* to 2. (TFS #12716)

Enhancement: *CirratoSrv* registry values *dbPoolStart* and *dbPoolMax* (initial and max number of database connections for *dptsrv* and *dptmon*) default settings changed to 30, to work better for large enterprises. (TFS #12504)

Correction: If a queue or printer was paused, no message was sent to clients trying to print towards it. (TFS #12162)

Correction: Modifications in scan destinations / e-mail functionality. Destination name now supports text substitution arguments for AD, OpenLDAP, and Novell. Destination name truncation option added. (TFS #12689, ZD #561)

Correction: Modification to improve card registration security. (TFS #12700, ZD #636)

Correction: Resolved an issue that could cause a server crash when applying a large (>1Mb) OSX configuration file on a queue. (TFS #12704, ZD #586)

49.2 Database

Feature: *sp_scheduled_job_run* modified so that a row is added to *tbl_scheduled_job_run_log* when a job starts, instead of when it finishes. (*RunEndDate* is updated when the job completes.) This makes it possible to see that a job that is not completed, e.g if it is killed or crashes, had been started. (TFS #12409)

Enhancement: Stored procedure modifications to prevent database deadlocks when the system is running under load. (TFS #10840; OTRS #406043)

Enhancement: Max length of registered card numbers changed from 50 characters to 450. (TFS #12418)

Enhancement: *InstallSQL.sql* now sets auto growth for Cirrato database files to 100 MB (previous default was 1 MB). If auto growth in the installed database is already >100 MB or there is more than one data file, no change is made. (TFS #12628)

Correction: Resolved database issue that made the MMC "Apply for driver" functionality not work for alternate drivers. (TFS #5698, OTRS #404413)

Correction: Modification to prevent deadlocks when deleting client message records from the database. (TFS #7561, OTRS #405257)

49.3 Web GUI

Correction: Resolved issue that made the Web GUI display an incorrect error message if it could not connect to the Cirrato database. (TFS #12502, ZD #492)

Correction: Modifications made to remove possible security problems in the web GUI. (TFS #12700, ZD #635, #637)

49.4 Standalone tools

49.4.1 Configuration Manager

Feature: *Features* → *Scan Destinations* → *Email*: New *Truncation* drop-down menu added. (TFS #12689, ZD #561)

49.4.2 CirratoPak

New 3.0 *rundll* configuration format replaces the 2.0 format which could make users unable to change printer preferences. (TFS #12711, ZD #582)

Note: Version 2.0 configurations will no longer be applied. If attempted, the client will log an error message to the event log. Customers with version 2.0 configs should replace them. (Query the database to find them and upload new configurations with the latest CirratoPak, using the `/rundll` switch).

50 15R1 20.2.2

Server	20.2.2	Web GUI	20.2.2	Date: 2015-10-20
Registry	20.2.2	Win client	20.2.2	
Database	20.2.2	Mac client	1.1.1	

50.1 Server

Feature: Added option in WS-API to allow users to have multiple cards registered. (*Includes changes in both WS-API and database.*) (TFS #12118)

Enhancement: Follow Print with DNS Lookup / "Resolve CPT" functionality modified for improved performance. (TFS #7185)

Correction: Corrected issue that made users' quotas rounded off to the nearest integer, without decimals (for example, 10.40 rounded to 10 instead of 10.4). (TFS #10097; OTRS #405896)

Correction: Resolved an issue that caused jobs printed with redundancy printing to be logged with incorrect "finish" dates. (TFS #10187; OTRS #405564)

Resolved issues with "self checking: other instance running" functionality. (TFS #11716)

When running in verbose mode, starting as a service, the service would terminate in a manner that made the service control manager restart the service indefinitely.

When running in service mode, starting in verbose mode, no messages about another instance running, or about ports not being available, were shown.

Correction: When printing multiple Follow Print jobs, they would be printed in incorrect order. (*Includes changes in both server and database.*) (TFS #12230; ZD #300)

Correction: Resolved various problems pertaining to creation and use of PIN codes. (TFS #11966)

Corrected error where registry-to-database migration would fail under certain circumstances. Also added database "write error" logging during migrations; to see possible error messages, stop the Cirrato printing service and run `dptsrv -v` in an elevated command prompt. (TFS #12243; ZD #309)

Correction: Resolved issue that caused printing to fail when using alternate drivers. (TFS #12214; ZD #285)

Corrected an erroneous database connection string call 64-bit registry that could cause the printing service not to start. This caused a secondary issue for the monitoring service due to internal dependencies, also corrected. (TFS #12328; ZD #309)

50.2 Database

Feature: Added option to allow users to have multiple cards registered. (*Includes changes in both database and Web Service API.*) (TFS #12118)

Feature: Support for Mac OS X El Capitan (10.11) added. (TFS #12396)

Enhancement: Improved backwards compatibility with old Windows clients. Ver. 2.0.14 or older can print on existing queues, and install new queues if built-in drivers are used. (**Note:** Such clients installed on a Server OS require driver deployments for a corresponding non-server OS; see *table_os* for reference.) (TFS #12125)

Correction: Modifications to prevent valid duplicates of model names causing issues during database upgrades. (TFS #11604, 12401; OTRS #406329)

Correction: If a printer had multiple queues (including deleted queues) for the same model, a direct print job could appear in embedded terminals. (TFS #11753)

Correction: *installSQL* script modified to resolve an upgrade issue. (TFS #12201; ZD #257)

Correction: When printing multiple Follow Print jobs, they would be printed in incorrect order. (*Includes changes in both database and server.*) (TFS #12230; ZD #300)

Correction: *InstallSQL* modification to resolve upgrade issue. When printers in old servers had "region 0" it prevented creation of foreign keys and caused errors in *dptsrv*. (TFS #12261)

50.3 Web GUI

Feature: *Card Management* page now supports multiple cards registered to one user. Each registration can be removed without affecting the user's other cards. (TFS #12118; OTRS #405746)

Correction: An exception was thrown when the application pool was recycling. (TFS #12249)

50.4 Standalone tools

50.4.1 Configuration Manager

Feature: New tab, *Features* → *Cards* → *Multiple Cards*. (TFS #12118)

Enhancement: *Features* → *Embedded Terminals* → *PIN Code*: Tab redesigned for improved usability. (TFS #11966)

Correction: *Programs* → *Web GUI* → *Impersonate*: The password field was always encrypted whether a password had been entered or not; this made it not possible to view Authentication settings for the Cirrato web site in IIS Manager. Encryption is now only performed if a password has been entered and saved. (TFS #11980)

Correction: The Configuration Manager was unable to encrypt passwords that were exactly 15 characters long. (TFS #12256)

Correction: *Programs* → *Web GUI* → *Web Service API*: The *Global Client Billing Mode* default value had been erroneously set to "Optional"; changed to "Disabled". (TFS #12334)

50.4.2 Print Management Client (PMC)

Feature: New `setting` command; when used without command options, displays PMC settings. Use with the option `-m p y` to enable performance monitoring of PMC commands and (on "list" commands) web service API requests/responses. (*not found in TFS*)

Feature: New options for `login` command: `-u` (username), `-d` (domain) and `-p` (password) allows users to enter full login credentials in one command step. (*not found in TFS*)

Feature: Search filter feature added with new `-f` option for all "list" commands. (TFS #12081, 12091)

Feature: New `-r` option for "region add" command allows creating multiple region levels in one step. (TFS #12096)

Enhancement: Improved error messaging for errors that were caused by users entering invalid command arguments. (TFS #12076)

Enhancement: User login security improved. (TFS #12106)

50.4.3 Driver Transfer between Systems (DTS)

Feature: DTS improvements.

- Improved transfer handling fr. multiple source systems to one target system. (TFS #11720)
- DTS can now find the Cirrato database from registry – editing configuration files is only needed if transferring information from/to another database.
- DTS Export: New "brand" panel allows limiting transfer to selected brands only.
- DTS Export: New *Include Alternative Models* button, includes alternate driver/model settings in transfer.
- DTS Import: New `-e` option: Include existing driver deployments as *install*.
- DTS Import: `-td` (TempDirectory) option removed; temporary directory no longer used.

51 15R1 20.2.1

Server	20.2.1	Web GUI	20.2.1	Date: 2015-08-18
Registry	20.2.1	Win client	20.2.1	
Database	20.2.1	Mac client	1.1.1	

51.1 Server

Correction: Registry-to-database migration of settings did not support DSN as part of the connection string in the 15R1 20.0.0 release. In case of registry-to-database migration failure, the printing service started and logged the error to the event log. It will now log it to the event log and then fail to start. (TFS #11790)

Workaround (valid for 15R1 20.2.0 specifically): To get the system running anyway, create the registry value *CirratoSrv\migrationVersion* (DWORD) and set to 1.

Correction: SNMP error messages sent from the server changed – a *No Contact* error now appears as an error icon in the balloon tip. Other messages such as *No Paper* or *Door Open* no longer say "failed to print", instead just stating that there is an error state on the printer. (TFS #11808)

Correction: WS-API modification to resolve issue that could make embedded terminals log on to the wrong domain. (TFS #11967)

Correction: Resolved issue that could make newly created PIN codes become registered without owner's username and domain. (TFS #11965; ZD #71)

51.2 Database

Jobs could not be submitted to printers that had previously reported SNMP errors such as *No Paper* or *Door Open*. Some devices could then never be printed to, since they did not update SNMP status until a job had been sent to them.

vw_printer_idle modified so it is now possible to print on printers with SNMP errors such as *No Paper*, *Door Open*, etc., but not on printers with *No Contact* error. (TFS #11808)

52 15R1 20.2.0

Server	20.2.0	Web GUI	20.2.0	Date: 2015-07-03
Registry	20.2.0	Win client	20.2.0	
Database	20.2.0	Mac client	1.1.0	

52.1 Server

Enhancement: MMC: Checks added to prevent creation of duplicate deployments for the same OS on the same driver. (TFS #4479)

Enhancement: Interface cleanup: Printer start/stop/pause functionality removed from the MMC. The Cirrato Web should be used for such tasks. (TFS #5967; OTRS #404471)

Correction: Registry: *ticketTimeMoveForward* and *ticketTimeMoveForwardCR* defaults changed to 2 to prevent jobs that cannot be printed from blocking printers. (TFS #3411; OTRS #406229)

Correction: Resolved display issue in MMC *Drivers* node affecting listing of queues that used a particular configuration. (TFS #6196; OTRS #404556)

Correction: Resolved display issue in MMC that made not all nodes visible at startup, only after a refresh. (TFS #6677; OTRS #404687)

Correction: Moving a job from a paused queue to an active queue would result in the job being printed over and over until it timed out. (TFS #7004; OTRS #404860)

Correction: MMC *Price Plan* dialog: After removing rows from a price plan, the *OK* button would become grayed out. (TFS #8170)

Correction: Resolved error in “Lookup Domains” functionality for cards and short IDs. All domains were searched even if lookup domains had been configured, which could result in slow terminal logins or login timeouts. (TFS #9055)

Correction (final fix): Users with names containing apostrophes (such as “O’Neill”) could not use advanced client billing or authenticate. (TFS #9220)

Replaces temporary fix (TFS #9203) implemented in 13R1EP2HF1.

Correction: *LoginCard* suggested registering card (in database) even if Card Number Source was set to “AD/OpenLDAP”. That setting now disables auto-card registration. (TFS #9545)

Correction: MMC: Corrected an issue in the *Add Alternate Drivers* dialog. If the given driver brand in the dialog was changed to another brand, the *Model Name* field became empty. (TFS #9731; OTRS #405831, 406276)

Correction: MMC: User messages in page limiter rules; at least one of the *Caption* and *Text* fields must now be populated for a message to be displayed on clients. (TFS #10620; OTRS #406003)

Correction: Resolved issue that could cause printers to stay in “Dispatcher” state and stop being available for printing. (TFS #11426; OTRS #406246)

Correction: Fixed issue that could crash the MMC when using multiple configurations. (Includes changes in both server and database.) (TFS #11464; OTRS #406196)

Correction: Removed confusing error message that could appear when a bidirectional driver is used with clients that do not support bidi communication. (TFS #11520; OTRS #406153)

Correction: The monitoring service could crash if alert descriptions contained apostrophes ('). If a query fails, the database query parameters are now logged. (TFS #11770; ZD #80)

52.2 Database

Feature: Deployments for Windows 10 added. (TFS #11318)

Enhancement: Improved checks and error handling in *InstallSQL.sql* script. (TFS #8426)

Enhancement: Improved automation in *InstallSQLjobs.sql* when setting jobs to run under SQL Server Agent; it is no longer necessary to manually disable them in Cirrato Job Manager, or to set the Cirrato database in each enabled job. (TFS #9453, 9454)

Enhancement: Improved error handling of driver/model duplicates in *InstallSQL.sql*. (TFS #11277)

Enhancement: Index modification that significantly improves runtime on some reports.
Note: Modification is not automatically implemented in a database upgrade. To implement in an existing installation, please contact Cirrato Support. (TFS #11478)

Correction: Fixed issue that could crash the MMC when using multiple configurations. (Includes changes in both server and database.) (TFS #11464; OTRS #406196)

Correction: Resolved an issue with incorrect prices being registered for JBA jobs. (TFS #11482; OTRS #406281)

Correction: Hooking local printers did not work, the client reported them as hooked but they were not written to the database. (TFS #11563)

52.3 Web GUI

Feature: New tab in administrator web: *Card Management*, a helpdesk portal for administrating end-users' registered cards. (TFS #10151)

Correction: Corrected an issue that made the *Print Job Information* pop-up window show an incorrect "Time in queue" value. (TFS #10914; OTRS #406099)

Correction: Self-service: If users refreshed the page after the session had timed out, an “internal server error” message appeared. Now redirects to the login page. (TFS #10914; OTRS #406099)

52.4 Standalone tools

52.4.1 Configuration Manager

Feature: *General* → *Messages*: Added option in the *On Broken Printer* drop-down menu: "Only show balloon tip when printer could not be reached". (TFS #11837)

Correction: *Programs* → *Web GUI* → *Web Service API: Resolve CPT* was erroneously enabled by default. In *Programs* → *MMC, Features* default changed. (TFS #6000)

52.4.2 CirratoPak

Feature: Modification to make it possible to run CirratoPak if the Cirrato MMC is installed on a client machine instead of on the server. (TFS #11273; OTRS #406190)

Feature: Core driver dependency support implemented. If needed, CirratoPak (and CirratoDrv) can now create driver archive format 2.0 where the *.inf* file is not located in the root.

Note: This format requires client 20.2.0 or later; older clients will report "too old client version" or "no driver deployed". (TFS #11501; OTRS #406288)

52.4.3 Other

Feature: Phased Driver Rollout (PDR) – new web-based tool for deploying print drivers on selected regions or queues, to test new drivers in a limited environment. (TFS #9629)

53 13R1EP2HF3

Date: 2015-08-18

Server 2013.2.7

Hotfix containing a server binary

53.1 Server

Correction: Resolved issue that could make newly created PIN codes become registered without owner's username and domain. (*TFS #11965; ZD #71*)

This correction made generally available in release 15R1 20.2.1.

54 15R1HF1MS

Date: 2015-05-29

Server 2020.1.0

Hotfix containing a server binary

54.1 Server

Correction: Resolved an issue with page limiter rules not being correctly applied when using "IS NOT" conditions. (*TFS #11447; OTRS #406269*)

55 15R1HF0

Date: 2015-04-08

Server 2020.0.1

Hotfix containing a server binary

55.1 Server

Correction: Re-added support for the *SoftFailOnDriverUpdate* toggle from EP2HF2, which was missing in server version 20.0.0.

56 15R1 20.0.0

Server	20.0.0	Web GUI	20.0.0	Date: 2015-03-30
Registry	20.0.0	Win client	20.0.0	
Database	20.0.0	Mac client	1.1.0	

56.1 Server

Feature: Implemented option for administration logging, writing MMC activity and queue start/stop events to event log. (To enable, create *CirratoSrv* registry value *auditingEnabled* [DWORD] and set to 1.) (TFS #9613)

Cleanup; various settings moved from server registry to Cirrato database. (TFS #8726)

Enhancement: Implemented modifications for increased password security. (TFS #9625)

Enhancement: Improved support for SQL Server Native Client driver (with regards to *datetime* datatype). (TFS #10750)

Correction: Resolved issue with handover point health status queries, that could make handover points be incorrectly flagged as “down”. (TFS #4928; OTRS #404170)

Correction: Resolved issue with SNMP counters (delta reads while printing) not working when SNMP community was set to something other than “public”. (TFS #8428; OTRS #405270)

Correction: Resolved issue with error messages not being sent when users submitted jobs to printers with “broken” status. Additionally, monitoring service now treats *noPaper* as a critical status. (TFS #9789)

Correction: WS-API modification to resolve issue with JBA copy jobs not getting a correct ticket price and price plan. (TFS #10091; OTRS #405880)

Correction: In the MMC login prompt, the *Domain* field was case sensitive. (TFS #10223; OTRS #405948)

56.2 Database

Correction: Modification to correct issue with client billing codes sometimes not being logged to *tbl_ticket_log* for JBA created tickets. (TFS #10106; OTRS #405902)

Correction: Corrected an issue that affected reports involving SNMP statuses. (TFS #10830; OTRS #406061)

56.3 Web GUI

Feature: Multi-language support expanded with six Asian languages: Chinese (trad.), Chinese (simplified), Japanese, Korean, Thai, Vietnamese. (TFS #9638)

Enhancement: *Q Assignment* tab: It is now sufficient to enter a value in the *Host Name* or the *User Name* field. Previously both had to be populated. (TFS #8322; OTRS #405374)

Enhancement: Implemented modifications for increased password security. (TFS #9625)

Enhancement: *Error Information* tab (Self-service): Modified settings on which system events are displayed as errors, for improved usability. (TFS #10316; 405959)

Enhancement: Cleanup; various settings moved from web configuration files to database. (TFS #8726)

Correction: *Statistics* tab: Corrected problem with searching for usernames that contain apostrophes (such as “O’Neill”). (TFS #7250)

Correction: Administrators now login to the admin web by default, even if default login mode is *selfservice*. (The login screen text will still read “Self Service”). (TFS #8015; 405269)

Correction: Authentication/privilege issue in the Web GUI corrected. (TFS #9588; 405802)

56.4 Standalone tools

56.4.1 Configuration Manager

Feature: *Programs* → *Web GUI* → *Multi Language Support*: Six languages added – Chinese (trad.), Chinese (simplified), Japanese, Korean, Thai, Vietnamese. (TFS #9638)

Feature: New page, *Programs* → *WSAPI*, for new Print Management features. (TFS #10469)

Enhancement: *Features* → *Embedded Terminals*: All tabs redesigned for improved usability. The tabs *In Session* and *Not In Session* removed. (TFS #8570)

Enhancement: Setup Wizard stability improved. (TFS #8585)

Correction: *Features* → *Rules* → *General*: Under *Send LPR Username*, removed the option “Send Ticket ID as LPR Username”. (TFS #8442; OTRS #405403)

56.4.2 Other

Feature: *Cirrato Navigator* – new web-based tool that lets end-users install queues on their clients by clicking printer icons on office floorplan maps. (TFS #5202)

Feature: *CirratoDrv* – new command line tool for batch upload of drivers. (TFS #7021)

Feature: *DTS Export* and *DTS Import* – new command line tools for transferring drivers, configurations, and deployments between *Cirrato* systems (such as a test system and a production installation). (TFS #8241)

Feature: *Cirrato Print Management Client* – new tool for creating, modifying and deleting regions, printers and queues via command line. (TFS #8956)

57 13R1EP2HFSV

Date: 2014-11-06

Hotfix on 13R1EP1.1 containing a modified *dptsrv* 2013.1.5 and a registry file

57.1 Server

Feature: Implemented possibility to configure behavior for forced handover and client IP selection, for jobs submitted using EUT_API. New registry values: *EUT_APIForceHandover*, *EUT_APIUseSubmittingClientIPForHandover* (TFS #9530; OTRS #405781)

58 13R1EP2HF2

Server	13.2.6	Web GUI	13.2.6	Date: 2014-10-27*
Registry	13.2.3	Win client	2013.2.2	
Database	13.2.6	Mac client	1.04	

* The release was re-packaged in 2015-01-28 as a new release with Windows client 13.3.0 and Mac client 1.06.

58.1 Server

Feature: Added possibility to configure whether print jobs should be deleted when a driver or configuration update is triggered. New global *tbl_property* setting: *softFailOnDriverUpdate*. (Default: disabled, driver update deletes jobs). (TFS #8329)

Feature: The server will now initiate an automatic shutdown if too many database connections are locked and do not become available within a set time. (TFS #9310)

Correction: Resolved an issue that caused the server to shut down, without restarting, if it lost connection with the database. (TFS #9343; OTRS #405724)

Correction: When an unregistered card was swept, the automatic card registration page would be printed over and over until its job timed out, if the server had been set to show a balloon tip when a job was finished. (TFS #8949)

Correction: Resolved an issue that caused all print jobs to be delayed by several minutes if the server had been set to show a balloon tip when a job was finished. (Includes changes in both server and database.) (TFS #9417)

58.2 Database

Correction: Resolved issue that caused sessions for Windows clients older than version 2.0.28 to not be written to database. If the server restarted, old clients required login/logout for authentication, messaging and client billing to work. (TFS #9315; OTRS #405719)

Correction: Corrected an issue that could cause database deadlocks when running a stored procedure for report aggregation. (TFS #9335; OTRS #405326, 405729)

Correction: Corrected an issue that made all print jobs delayed by several minutes if the server had been set to show a balloon tip when a job was finished. (Includes changes in both database and server.) (TFS #9417)

Correction: Resolved an issue that made queues with deployments of built-in drivers stop working after a server upgrade. (TFS #9444; 405760)

58.3 Web GUI

Correction: Resolved issue that would make the Web GUI throw an exception if printer names contained certain non-ASCII characters, such as å, ä, ö, é, or è. (TFS #8872)

59 13R1EP2HF1

Server	13.2.5	Web GUI	13.2.3	Date: 2014-10-14
Registry	13.2.3	Win client	2013.2.1	
Database	13.2.5	Mac client	1.04	

59.1 Server

Correction: Solved problem with special characters in job names causing jobs to be deleted when printing with external payment solution (PayEx). (*TFS #2949; OTRS #403947*)

Correction: Resolved issue that made the HID service unable to resume communication with the database, if database connection was lost and then returned. (*TFS #8653; OTRS #405544*)

Correction: Resolved an issue that could cause Follow Print jobs to be printed in wrong order. (*Includes changes in both server and database.*) (*TFS #8983; OTRS #405581*)

Correction: Resolved issue that made the server not shut down entirely if it lost contact with the database. (*TFS #9117*)

Correction: Resolved an issue that stopped Follow Print jobs from being released on terminals if the PIN Code Ruleset feature was active. (*TFS #9185*)

Correction: Advanced client billing: Users with names containing apostrophes (such as “O’Neill”) were not able to authenticate. (*TFS #9203*)

59.2 Database

Correction: Resolved issue that could cause Follow Print jobs to be printed in wrong order. (*Includes changes in both database and server.*) (*TFS #8983; OTRS #405581*)

60 13R1EP2HFR

Date: 2014-09-25

Server 13.2.4

Win client 2013.2.1

Hotfix containing server binary and client MSIs

60.1 Server

Feature: Added support for specifying domains in username field when logging in on terminals; “user@domain”, “domain/user” and “domain\user” supported. (TFS #6623; OTRS #404706)

Feature: It is now possible to store short IDs and card numbers on different sources, for example, card numbers in database and Short IDs in Active Directory. (TFS #9005)

Correction: Resolved issue that could cause internal Quota to be locked in reserved state and not be released, if used in conjunction with external payment. (TFS #2950; OTRS #403681)

Correction: Client billing issue: If several jobs were submitted in quick succession and a billing code set on each, only the first submitted job would get the code. (Includes changes in both server and client.) (TFS #8221)

Correction: Resolved issue with handling uppercase/lowercase mismatches in ticket IDs that could cause existing queued jobs to be deleted after an upgrade. (TFS #8518; OTRS #405433)

Correction: Advanced client billing: Usernames containing single quotation marks (such as O'Neill) were not recognized as members of “Allowed groups”. (TFS #8525)

Correction: Resolved issue that could make the printing service crash if users swiped an unregistered card and no handover point was configured. This configuration error is now logged to the event log instead. (TFS #8981)

Correction: Fixed issue with reading card numbers and Short IDs from external database. (TFS #9051)

Correction: Resolved a database connection issue that could cause the server to hang and become unresponsive. (TFS #9087; OTRS #404968, 405271, 405326, 405494)

Correction: Advanced client billing: When setting an expiry time on a billing code, the code would not be set on the print job that triggered the client billing dialog. (Includes changes in both server and client.) (TFS #9089)

Correction: Resolved issue that made users' first print job after authentication (not subsequent jobs) become stuck in “authentication needed” or “print service lock” state. (TFS #9102, 8531; OTRS #405601)

61 13R1EP2 13.2.3

Server	13.2.3	Web GUI	13.2.3	Date: 2014-08-20
Registry	13.2.3	Win client	13.2.3	
Database	13.2.3	Mac client	1.04	

61.1 Server

Correction, WS-API: Follow Print jobs could not be released, giving the error message “no suitable queue found”. (*TFS #7500*)

Correction: Added possibility to make OpenLDAP group membership queries for Distinguished Names instead of just usernames. (*TFS #8260, OTRS #405348*)

61.2 Web GUI

Statistics page: Search for usernames with apostrophes (“O’Neill”) did not work. (*TFS #7250*)
Temporary fix – final fix implemented in release 15R1 20.2.0.

62 13R1EP2 13.2.2

Server	13.2.2	Web GUI	13.2.2	Date: 2014-08-15
Registry	13.2.2	Win client	13.2.2	
Database	13.2.2	Mac client	10.4	

62.1 Server

Feature: Client billing error handling improved. The set of error messages that the server can send to clients has been expanded and made more specific. (*TFS #7231*)

Correction: Corrected a WS-API buffering problem that could cause the domain list displayed in the Mac client to be truncated. (*TFS # 8175; OTRS #405322*)

Correction: Addressed problem with using departmental accounting with Xerox Phaser 3635. (Supported for this model only in single domain environments.) (*TFS #8373*)

62.2 Database

Correction: Modification implemented to correct problem with listing client sessions sorted by client IPs. (*TFS #8295; OTRS #405350*)

62.3 Standalone tools

62.3.1 Server Installer

Enhancement: Improved “web server roles and features” pre-check. Added pre-check item “IIS ASP.NET 3.5”. (*TFS #4758; OTRS #405184*)

Correction: Fixed process error that could make the Installer enter a deadlock when checking for web server roles. (*TFS #7800; OTRS #405184*)

62.3.2 Configuration Manager

Correction: Resolved a problem that made the Setup Wizard hang when trying to restart the Cirrato web at the *Finish* step. (*TFS #8005*)

63 13R1EP2 13.2.0

Server	13.2.0	Web GUI	13.2.0	Date: 2014-07-24
Registry	13.2.0	Win client	13.2.0	
Database	13.2.0	Mac client	1.04	

63.1 Server

Feature: MMC: Added support to properly report OS version for Windows Server 2012 R2 and Windows 8.1 when creating driver deployments. (TFS #6818)

Feature: WS-API: supports print tickets generated by the JBA print service. New job type: 5 (*JBA Print*). New major/minor code: 90/77. (TFS #7372)

Feature: PayEx transaction details improved; number of printed pages now gets logged at PayEx site. (TFS #7732)

Feature: *Dptsrv* verbose output improved. (TFS #7732)

Feature: MMC: Easier accounting options for Xerox terminals. All previous “Poll” settings replaced by “External”. (Existing settings are auto-replaced during upgrade.) (TFS #8081)

Correction: Resolved issue that would make driver installations fail after upgrades from Cirrato versions older than 2011R2SP1 2011.2.100. (TFS #6154; OTRS #404531)

Correction: Ruleset modified so that the Cirrato server does not need to have quota to perform a print job during auto-card registration. (TFS #6474; OTRS #404653)

Correction: Corrected issue that affected PIN code validation when changing PIN codes. (TFS #6625; OTRS #404585)

Correction: Corrected issue that affected PIN code validation when using PIN codes. (TFS #6626; OTRS #404586)

Correction: MMC: Resolved issue with editing price plans of the type “absolute price”. (TFS #7722)

Correction: Removed unnecessary “interact with desktop” installation settings from the printing and monitoring services. (TFS #7725; OTRS #403285)

Correction: Resolved problem that made the printing service generate crash dump files when it was restarted or lost contact with the database. (TFS #7726)

Correction: Addressed issue that made temporary Short IDs unable to expire after a system upgrade. (TFS #7794)

Correction: Resolved handling of single quotation marks (‘) when creating inventory reports. (TFS #7845; OTRS #405204)

Correction: Corrected status check error that could make the Cirrato monitoring service crash. (TFS #8020; OTRS #405083)

Correction: Resolved an SNMP problem that could cause the monitoring service to generate dump files. (TFS #8217; OTRS #405083)

63.2 Database

Enhancement: Performance when using embedded terminals and price plans improved. (TFS #8171)

Correction: Addressed database issue that could affect the client authentication dialog in local networks with 7 or more domains. (TFS #8089; OTRS #405197)

63.3 Web GUI

Enhancement: Constraint added to per-user searches for historic tickets, for improved performance in *Support* page and Self-service web. (TFS #7719; OTRS #405128)

Enhancement: Improved error handling of query timeouts in *Support* page and Self-service. (TFS #7876)

Enhancement: *Support* page search time options renamed for improved clarity. (TFS #7878)

Enhancement: Improved security in Self-service concerning users in different domains. (TFS #8014)

Correction: Client billing: Function errors corrected, various known issues addressed, improved separation in GUI between “simple” and “advanced” features. (TFS #5682; OTRS #404405)

63.4 Standalone tools

63.4.1 Configuration Manager

Feature: *Features* → *Accounting* page removed; deprecated. (TFS #7368)

Feature: *Features* → *Embedded Terminals* → *In Session* and *Not In Session*: *Options Display Proof Print* removed. (Instead use *Retain* button on terminals.) (TFS #7486)

63.4.2 CirratoPak

Feature: Added support to properly report OS version for Windows Server 2012 R2 and Windows 8.1 when uploading configurations. (TFS #6818)

64 13R1EP1.4

Date: 2014-06-12

Hotfix containing web MSIs

64.1 Web GUI

Correction: Resolved an issue affecting terminal logins if Rules functionality was disabled.
(*TFS #8135*)

65 13R1EP1.3

Server	13.1.10	Web GUI	13.1.10	Date: 2014-05-23
Registry	13.1.10	Win client	13.1.10	
Database	13.1.10	Mac client	1.04	

65.1 Server

Correction: Corrected Short ID error message on lost printing service connection. (*TFS #7849*)

Correction: Corrected error message when swiping an unregistered card. (*TFS #7869*)

Correction: Resolved issue that affected terminal logins when using printer hostnames instead of IP addresses. (*TFS #7894; OTRS #405228*)

Correction: Resolved issue that affected handover functionality when using printer hostnames instead of IP addresses and with handover set to “Printer Based”. (*TFS #7930*)

65.2 Web GUI

Correction: Resolved issue with automatic card registration when using automatic client login with HTTP request headers. (*TFS #7756; OTRS #405125*)

This correction also released as a hotfix, 13R1EP1.2HF1, containing only web MSIs.

66 13R1EP1.2

Server	13.1.6	Web GUI	13.1.6	Date: 2014-05-05
Registry	13.1.6	Win client	13.1.6	
Database	13.1.6	Mac client	1.04 *	

* Mac client 1.04 released in 2014-01 but not fully supported until this release.

66.1 Server

Feature: New “Keep Config” MMC functionality for retaining existing queue configurations when updating drivers. (TFS #5600)

Feature: Short IDs can now be auto-generated for users upon first printout. New MMC node: *Rules / Short ID*. (TFS #6503, 6787)

Feature: Server can create temporary anonymous sessions for guest printing. (TFS #6517)

Feature: Short ID blacklist functionality added. (TFS #6537)

Feature: Message box dialogs now support embedded HTML links. (TFS #6757)

Enhancement: Modifications in the printing service for improved system stability. (TFS #651)

Enhancement: Session queue stability improved. (TFS #5311)

Enhancement: Improved handling of communication errors with LPR printers.
New minor error codes: 30/92 (PR_PRINTER_NOT_ACCEPTING_JOBS), 30/93 (PR_PRINTER_NOT_ACCEPTING_JOBS_MOVED_TICKET_FORWARD). (TFS #6145; OTRS #404395)

Enhancement: Handling of price plan modifications in the MMC improved. All changes in a price plan are now made in the same transaction. (TFS #6147)

Enhancement: Server now handles client sessions in memory before storing them in the database, for faster and more efficient session handling. All active sessions are stored to database before the server exits. (TFS #6517)

Correction: Added error handling to reset printer status in case of Dispatcher failure. (TFS #6127; OTRS #404520)

Correction: Web Service API modified to prevent display issues caused by XML-invalid characters in job names. (TFS #6481; OTRS #404670)

Correction: Corrected error message sent from HID service if a card reader does not disconnect after sending card number. (TFS #6820; OTRS #404704)

Correction: Resolved issue that caused a loss of job data collected by SNMP counters. (TFS #6914; OTRS #404821)

Correction: Resolved issue that affected printing with the PayEx payment solution. (TFS #7074; OTRS #404901)

66.2 Database

Feature: Price plan history saved so that B/W and color jobs can be tracked separately. New table: *tbl_cirrato_price_history*. New SP: *spw_save_priceplan_to_history*. (TFS #6147)

Correction: *sp_ticket_register_new* modified to correct a problem with attribute logging for copy/scan/fax tickets. (TFS #4983)

66.3 Web GUI

Enhancement: Improved web GUI compatibility with different browser versions. (TFS #7041)

Correction: Resolved issue with the “username as absolute value” search filter not being applied correctly. (TFS #6620; OTRS #404702)

Correction: Resolved issue with quota reservations not being displayed in the Self-service web. (TFS #6827; OTRS #403601)

Correction: Prevented possibility to make JavaScript insertions through printer names and client billing node names. (TFS #6876; OTRS #404818)

Correction: PayEx web: Resolved an issue that made expired user agreements not possible to renew on the PayEx web site. (TFS #7072; OTRS #404899)

66.4 Configuration Manager

Feature: Guest print control added under Features → Authentication → General. (TFS #6517)

Feature: Short ID blacklist controls added under *Features* → *Cards* → *Short ID*. (TFS #6537)

67 13R1EP1.1

Server	13.1.5	Web GUI	13.1.5	Date: 2013-12-18
Registry	13.1.5	Win client	13.1.3	
Database	13.1.5	Mac client	1.03	

67.1 Server

Feature: Domain settings moved from registry to database; settings now shared by printing service and web. Environments with domains using mixed LDAP solutions (AD, Novell eDirectory, OpenLDAP) are now supported. (TFS #5068)

Feature: Multiple LDAP domain support in Scan Destinations functionality. (TFS #5073)

Feature: Compatibility issue with pre-13R1 clients corrected in server protocol. (TFS #5244; OTRS #404232)

Feature: Added possibility to enable/disable crash dump functionality. New registry values: *MdumpTypedptmon*, *MdumpTypedptsrv* [DWORD] (TFS #5959)

Correction: Corrected behavior of the drag-and-drop functionality for regions in the Cirrato MMC. (TFS #5275; OTRS #404285)

Correction: Added check to prevent conflicts when inserting new users and new client billing codes. (TFS #5282; OTRS #404266)

Correction: Resolved an issue that made changing install method of drivers not work in the Cirrato MMC. (TFS #5299; OTRS #404286)

Correction: If an incompatible database version is detected, an Error is now sent to the Windows event log. (TFS #5302)

Correction: Printing service modified to resolve an issue where new queue installations using driver packages did not receive configurations. (TFS #5645)

Correction: Repaired the “do not auto create queue” function in the Cirrato MMC’s *Add New Printer* dialog. (TFS #5683; OTRS #404409)

67.2 Database

Feature: Stored procedures modified to support domain filtering of searches made in the web GUI. (TFS #5068)

Correction: Corrected an error that made JBA jobs not appear in the web *Statistics* page. (TFS #1532)

67.3 Web GUI

Feature: Domain settings moved from *appSettings.config* to database; settings now shared by print service and web. Multiple domains can now be handled by one deployed instance of the web. (TFS #5068)

Feature: Domain selection drop-down added in web login page. (TFS #5068)

Feature: Domain search limiter added in *Queue Manager*, *Monitoring* and *Statistics* pages. (TFS #5068)

Feature: Support added for web “single sign-on”, automatic login to the web GUI, using Windows authentication (Kerberos and NTLM HTTP authentication). (TFS #5071)

Feature: Short ID generator functionality added in the Self-service *Short ID* page, allowing users to auto-generate Short IDs. The old functionality where Short IDs are entered manually by users is still an available option. (TFS #5076)

Correction: Corrected error in web GUI region filter. (TFS #5845; OTRS #404448)

Correction: Resolved Web Service API issue that affected card logins. (TFS #6178)

67.4 Standalone tools

67.4.1 Configuration Manager

Feature: *General* → *Directory* and the Quick Start Wizard’s *Directory Services* page redesigned to facilitate improved LDAP domain support. (TFS #5068)

Feature: Attribute mapping functionality added under *General* → *Directory*. (TFS #5068)

Feature: *Programs* → *Web GUI* → *Directory Authentication* modified; added option for automatic web login via Kerberos and NTLM HTTP authentication. (TFS #5071)

Feature: Added options under *Features* → *Cards* → *Short ID* to auto-generate Short IDs in the Self-service web, and to set Short ID length. (TFS #5078, 5079)

Feature: *Features* → *Accounting* → *Xerox* simplified; removed LDAP settings made redundant by server changes in LDAP domain handling. (TFS #5510)

Enhancement: In *Features* → *Rules*, checkbox added to send ticket ID as LPR document name, used in Job Based Accounting for Xerox devices. (TFS #4630, 2508; OTRS #403342)

Correction: *Programs* → *Web GUI* → *Web Service API*: The checkbox *Resolve CPT* unchecked by default to avoid problem with delays on embedded terminals. (TFS #6000)

Correction: Modified the way the Configuration Manager handles IP addresses for handover rules. (TFS #6197; OTRS #404527)

Correction: *Features* → *Directory Users*: Corrected problem with mixed data types that would generate error messages. (TFS #6220)

67.4.2 Job Based Accounting for Xerox devices 13.1.24340

Note: JBA 13.1.24340 is part of this server release but delivered separately.

Enhancement: Modified the way EAS keeps track of which jobs have been accounted for. All job records are retrieved from a device, and all are used to create tickets. This improves compatibility with Xerox 3635 devices. (TFS #5508)

Enhancement: Special characters that were escaped using HTML Esc Codes are converted back into real characters before writing accounting data to the database. (TFS #5509)

Correction: Fixed support for Chunking over HTTPS, required for compatibility with Xerox 3635 devices. (TFS #5507)

68 13R1EPX

Server	13.1.3	Web GUI	13.1.3	Date: 2013-11-06
Registry	13.1.3	Win client	13.1.3	
Database	13.1.3	Mac client	1.03	

68.1 Server

Feature: Domain settings moved from registry to database; settings now shared by printing service and web. Mixed environments with domains using AD and Novell are now supported. (TFS #5068)

Feature: Multiple LDAP domain support in Scan Destinations functionality. (TFS #5073)

Correction: Compatibility issue with pre-13R1 clients corrected in server protocol. (TFS #5244; OTRS #404232)

Correction: Resolved an issue that made changing install method of drivers not work in the Cirrato MMC. (TFS #5299; OTRS #404286)

Correction: Printing service modified to resolve an issue where new queue installations using driver packages did not receive configurations. (TFS #5645)

68.2 Database

Feature: Stored procedures modified to support domain filtering of searches made in the web GUI. (TFS #5068)

68.3 Web GUI

Feature: Domain settings moved from *appSettings.config* to database; settings now shared by print service and web. Multiple domains can now be handled by one deployed instance of the web. (TFS #5068)

Feature: Domain selection drop-down added in web login page. Domain search limiter added in *Queue Manager*, *Monitoring* and *Statistics* pages. (TFS #5068)

Feature: Support for auto-login via Kerberos and NTLM HTTP authentication added. (TFS #5071)

68.4 Standalone tools

68.4.1 Configuration Manager

Feature: *General* → *Directory* and the Quick Start Wizard's *Directory Services* page redesigned to facilitate improved LDAP domain support. (TFS #5068)

Feature: Attribute mapping functionality added under *General* → *Directory*. (TFS #5068)

Feature: *Programs* → *Web GUI* → *Directory Authentication* modified; support for Kerberos and NTLM HTTP authentication added. (TFS #5071)

69 13R1 13.1.1

Server	13.1.1	Web GUI	13.1.1	Date: 2013-09-16
Registry	13.1.1	Win client	13.1.1	
Database	13.1.1	Mac client	1.03	

69.1 Server

Enhancement: Spool timeout function modified for improved handling of large print jobs.
New registry setting: *spoolTimeout* [DWORD] (TFS #4452)

Correction: Automatic card registration modified to prevent registration of cards having empty string as card numbers. (TFS #2441; OTRS #403516)

Correction: Corrected time truncation in displayed client billing code validity. (TFS #3581)

Correction: Authentication and Follow Print now works with usernames, passwords and domain names containing Cyrillic characters. (TFS #4062)

Correction: Web service API modified to correct a problem with resolving mixed printer identifiers (IP, hostname, FQDN). (TFS #4082)

Correction: The server failed to delete redundancy printed jobs when the client reported that it had printed them. (TFS #4189)

Correction: Unnecessary configuration warnings removed in *dptsrv -v* output. (TFS #4303)

Correction: Modification to prevent server timeout when client is spooling large jobs. (TFS #4571)

69.2 Database

Correction: Corrected server side error that could make *adminComment*, instead of *comment*, be displayed in CirratoSearch. (TFS #3052; OTRS #403698)

Correction: Modified *spc_printer_get_id_by_ip* and *dbo.ws_GetWsSessionInfo_ByMFP* to correct a problem with resolving mixed printer identifiers (IP, hostname, FQDN). (TFS #4082)

69.3 Web GUI

Correction: Resolved a display issue with the region tree search filter. (TFS #3337; OTRS #403844)

Correction: Filtering issue in printer log page corrected. (TFS #4239; OTRS #403999)

70 13R1 13.1.0

Server	13.1.0	Web GUI	13.1.0	Date: 2013-07-15
Registry	13.1.0	Win client	13.1.0	
Database	13.1.0	Mac client	1.02	

Note: Mac client 1.02 **requires** server release 13R1 or later.

70.1 Server

Feature: Multi-language support added to the Automatic Card Registration feature. (TFS #1835)

Feature: Server registry changes for reasons of multi-language support: *adminGroup*, while still required to use MMC and Web, is empty by default (older versions used “CirratoAdmin” or “Print Operators”). Strings for client message captions/texts are empty by default; if no strings are entered, the client uses values from language-specific resource DLLs. (TFS #2858)

Feature: Added support for Mac client (search, drivers, configurations).

Enhancement: 12 new minor error codes added for improved error handling. (TFS #1821)

Correction: Resolved a problem that could cause erroneous behavior if the user tried to use blank credentials with username/password authentication. (TFS #1885)

Correction: Resolved snap-in issue that could make MMC crash at startup. (TFS #3435)

Correction: When using PIN code authentication to send print jobs to a local printer, the PIN code dialog would be displayed repeatedly. (TFS #3439)

Correction: Search will return "queuename (printername)" if there is more than one queue with the same name. Registry setting *printerSearchMethod* removed.

70.2 Database

Feature: Pervasive database modifications in terms of character encoding (Unicode) and use of strings, to support multi-language functionality. (TFS #714, 1027)

Correction: Resolved an issue with client billing code conversion when upgrading from release 2011R2 or older versions. (TFS #2264)

Correction: Corrected configuration file mapping for queues and deployments. If a printer configuration had been applied for all queues using a selected driver, it was not possible to then apply another configuration for them. (TFS #2268)

Correction: Modification to resolve a legacy issue that could make client billing code searches in the client only return nodes. (TFS #3442)

70.3 Web GUI

Feature: Multi-language support expanded from 3 languages to 13. GUI flag icons replaced with a language selection drop-down on the login page. The language “English” replaced with ”English (US)” and “English (GB)”. (TFS #720, 1027, 2366)

Correction: If jobs have empty names, the web inserts “---“ to make them clickable in the GUI tables. (TFS #995; OTRS #402387)

Correction: If a job named with Cyrillic characters (such as *Правда.txt*) was sent to a Follow Print queue, the job name would be displayed as “??????.txt” in the Web GUI. (TFS #4063)

70.4 Standalone tools

70.4.1 Server Installer

Feature: By default, the Installer now creates a dedicated Cirrato application pool instead of using *DefaultAppPool*. (TFS #1497)

Feature: The Installer now checks for required components on the local machine, instead of merely listing them, and can configure correct web server roles and features prior to installation. (TFS #3640)

70.4.2 Configuration Manager

Feature: In *Programs* → *Web GUI* → *Features*, added checkboxes to enable/disable the “Printer Info” and “Queue Assignment” web pages. (TFS #520)

Feature: In *Programs* → *Web GUI* → *Multi Language Support*, new language setting drop-down has 13 available languages, plus “auto” (use browser setting). Multi-language support is now enabled by default, new default language is “English (US)”. (TFS #2048)

Feature: In *Programs* → *MMC* → *General*, “Enable Follow Print with DNS lookup” option added and made new default.

Enhancement: All fields for entering message captions/texts are supplanted with options to clear the fields and use default strings. The latter are fetched from resource files according to local language settings. (TFS #3598)

71 2011R2SP2

Date:	2013-06-13	Database	11.2.200
Server	11.2.200	Web GUI	11.2.21679
Registry	11.2.200	Win client	2011.2.200

Note: This release does not support Mac clients.

71.1 Server

Feature: LDAP attribute logging is now available for copy/scan/fax jobs, in addition to printing. (TFS #2064)

Correction: HID service correction. The *Action on Card Swipe* action “Print all (web service)” did not work under the *Depends on connecting IP* option. (TFS #3477)

71.2 Web GUI

Correction: *Support* tab: The column “Additional Information” in the job detail list is hidden by default; visible to members of Additional Information Group. (TFS #1821)

71.3 Standalone tools

71.3.1 Configuration Manager

Feature: Under *Programs* → *WebGUI* → *Directory Group & Login*, added the group “Additional Information Group”. (TFS #1821)

72 2011R2SP1HF8

Date:	2013-05-15	Database	11.2.113
Server	11.2.113	Web GUI	11.2.21407
Registry	11.2.113	Win client	2011.2.112

Note: This release does not support Mac clients.

72.1 Server

Enhancement: Communication protocol handling of TCP packages improved, reducing risk of data loss. This resolves an issue with missing model names in MMC (see OTRS ref.) as well as various problems with lost print jobs, including *deleted_created* errors and jobs deleted due to handover failures/timeouts. (TFS #1783; OTRS #403269)

Correction: Printing service: Checks added to resolve an issue with the “release all” command moving paused Follow Print jobs to direct print queues. (TFS #1475)

Correction: Web service API: *Ticket.MoveListToPrinter* modified to resolve an issue with error messages not being displayed for some types of errors. (TFS #2690)

72.2 Database

Correction: Corrected error that caused some database tables to be automatically deleted during upgrades. (TFS #3099)

72.3 Web GUI

Correction: *My Jobs* page would display a field for PayEx and/or internal quota balance, even if payment/debiting functionality was disabled. (TFS #1785; OTRS #403272)

73 2011R2SP1HF7

Date:	2013-04-18	Database	11.2.112
Server	11.2.112	Web GUI	11.2.21311
Registry	11.2.112	Win client	2011.2.112

Note: This release does not support Mac clients.

73.1 Server

Feature: Option added in HID service to send card swipe requests through the Cirrato web service, instead of the printing service, for improved performance. (TFS #630; OTRS #403259)

Correction: Database call changed to resolve a problem with deployment of print drivers with no locale affecting already deployed drivers. (TFS #1921; OTRS #403295)

Correction: Resolved an issue with client billing settings being changed to “required” at server restart. (TFS #2162; OTRS #403216)

Correction: Printing service modified to correct a problem with deadlocked database transactions not being retried. (TFS #2574; OTRS #403259)

Correction: Printing service modified to prevent deletion attempts of already deleted tickets, causing *tbl_ticket_log_trans* insertion errors. (TFS #2579; OTRS #402870)

73.2 Database

Correction: *sp_monitoring_component_status* modified to fix an issue with monitoring of handover points, AD, and ODBC card database. (TFS #2034; OTRS #403239)

Correction: *sp_client_billing_search* and *sp_client_billing_search_simple* modified to resolve problems with the code search function for simple client billing. (TFS #2160, 2995)

Correction: *sp_client_billing_validate* modified to resolve a problem when users tried to change billing codes in Follow Print terminals. (TFS #2243)

Correction: *tbl_papersize* modified to resolve a problem with default price not being used correctly when printing with unknown paper size. (TFS #2556; OTRS #403532)

Note: See *Server* above regarding database deadlock issues.

73.3 Web GUI

Correction: Fixed layout issue in *Monitoring* tab when displaying errors from handover points, Active Directory, and ODBC card database. (TFS #2034; OTRS #403239)

73.4 Standalone tools

73.4.1 Configuration Manager

Feature: Under *Programs* → *Card Reader Service*, added option to release Follow Print jobs through the Cirrato web service. (TFS #630; OTRS #403259)

Feature: Under *Features* → *Paper Sizes*, added field to manually edit paper size ID. (TFS #2556; OTRS #403532)

Correction: Corrected error in *Programs* → *WebGUI* → *Directory Authentication* that could disrupt Single Sign-On settings in *appSettings.config*. (TFS #1076)

Correction: Under *Programs* → *Card Reader Service* → *Action on Card Swipe*, in the *Action* drop-down appearing when “Depends on connecting IP” is selected, added missing “Send card number as HTTP GET” option. (TFS #2979)

73.4.2 CirratoPak

Feature: CirratoPak modified to include Windows separator page filenames (the path `%WINDOWS%\System32` is assumed) in printer configurations. (TFS #2713)

Correction: CirratoPak version on the welcome dialog is now displayed in runtime instead of hard-coded. (TFS #2895)

74 2011R2SP1HF6

Date:	2013-03-18	Database	11.2.111
Server	11.2.111	Web GUI	11.2.20630
Registry	11.2.111	Win client	2011.2.103

Note: This release does not support Mac clients.

74.1 Server

Feature: HID service supports using HTTP *GET* requests to send card numbers. (TFS #1784)

Feature: The Cirrato MMC now supports multiple domain access. (TFS #2428)

74.2 Database

Feature: New reports: *Printer user price*, *Printer user statistics*, *User printer statistics*. (TFS #2460)

74.3 Standalone tools

74.3.1 Configuration Manager

Feature: *Features* → *Card Reader Service*: Option added to send card numbers through HTTP *GET*. (TFS #1784)

74.3.2 Documentation

Correction: *Reports Setup Guide*: Appendix B updated to reflect current setup procedure for attribute logging. (TFS #2106; OTRS #403380)

75 2011R2SP1HF5

Date:	2013-02-22	Database	11.2.110
Server	11.2.110	Web GUI	11.2.20630
Registry	11.2.110	Win client	2011.2.102

Note: This release does not support Mac clients.

75.1 Server

Correction: HID service correction. If the “send card number as text” option was used, multiple card swipes could make the HID service stop receiving information from the Cirrato database. (TFS #2139; OTRS #403386)

Correction: Printing service and WS-API modified to resolve an issue with automatic card registration not working on printers with GK-7000 devices. (TFS #2254)

75.2 Database

Feature: Switch added in *tbl_property* to control whitelist function in attribute logging. (TFS #1080; OTRS #403389)

75.3 Standalone tools

75.3.1 Configuration Manager

Feature: *Attribute Logging* page added – sets logging type, logged attributes, and whitelist function. (TFS #1080, 2064; OTRS #403389)

76 2011R2SP1HF4

Date:	2013-01-25	Database	11.2.109
Server	11.2.109	Web GUI	11.2.20225
Registry	11.2.109	Win client	2011.2.102

Note: This release does not support Mac clients.

76.1 Server

Feature: Printer configurations can now be applied for all queues that use a selected driver. (TFS #1826)

Feature: WS-API modified (configuration, authentication) for compatibility with biometric readers. (TFS #2102)

Correction: Corrected error in WS-API that made *GetPrinterListByBrandName* return printers that had been deleted. (TFS #2052; OTRS #403354)

76.2 Database

Correction: Corrected error in *sp_report_jobs_detail_calc_do* that made INSERT fail if columns had NULL values. (TFS #1567; OTRS #403214)

77 2011R2SP1HF3

Date:	2012-12-21	Database	11.2.108
Server	11.2.108	Web GUI	11.2.19596
Registry	11.2.108	Win client	2011.2.102

Note: This release does not support Mac clients.

77.1 Server

Feature: CirratoSearch can now search for queues with identical names. New server registry value: *[CirratoSrv\printerSearchMethod]* (default=2). (TFS #1112)

77.2 Database

Feature: Modifications to support CirratoSearch searching for queues with identical names. New SP: *srv_pr_queue_model_by_printerName_queueName*. (TFS #1112)

78 2011R2SP1HF2

Date:	2012-12-19	Database	11.2.107
Server	11.2.106	Web GUI	11.2.19596
Registry	11.2.106	Win client	2011.2.102

Note: This release does not support Mac clients.

78.1 Server

Correction: Resolved issue with truncation of location information in alarm e-mails. (TFS #1085)

78.2 Database

Enhancement: *Departmental Accounting* report removed; replaced with the reports *Departmental Accounting by User* and *Departmental Accounting by User Detail* for improved performance. (TFS #1332)

Correction: *spc_dispatch_monitor* modified to avoid truncation of location information in alarm e-mails. (TFS #1085)

Correction: Modifications to resolve an issue that would make the “poll and merge” functionality yield incorrect results when used with Job Based Accounting for Xerox devices. New SPs: *TimeDelay_hh_mm_ss*, *spc_tbl_ticket_log_JBA_Update*, *spc_tbl_ticket_log_JBA_Update_Run* (TFS #1268; OTRS #403147)

78.3 Other

Correction: JBA: Resolved issue with copy jobs submission with incorrect username “unknown” when used in combination with client billing. (TFS #493; OTRS #403147)

Correction: Xerox Embedded: Resolved issues with incorrect logging of copy jobs when using Job Based Accounting for Xerox devices. (TFS #1190; OTRS #403118)

Note: The above fixes require the following components (available separately):

- * Cirrato Embedded for Xerox, version 1.2.2.0 or later
- * JBA 11.2.17881 or later

79 2011R2SP1HF1

Date:	2012-12-06	Database	11.2.105
Server	11.2.105	Web GUI	11.2.19596
Registry	11.2.105	Win client	2011.2.102

Note: This release does not support Mac clients.

79.1 Server

Correction: Resolved a threading issue that would make the MMC inoperable (CPU 100%) if connection to server was lost, or if the login window was moved. (TFS #752; OTRS #401294)

Correction: Heartbeat issue corrected. In some instances, the server would send heartbeat requests to handover points too often, resulting in eventual system overload. (TFS #1288)

Correction: WS-API now accepts AD group names containing single quote (') characters. (TFS #1123)

Correction: The HID service sent card reader IP instead of printer IP in the HTTP POST call for Elatec *TCPconv* readers, making it impossible to login with a card using a USB-to-TCP converter on newer Xerox terminals.

79.2 Database

Enhancement: Installation package: *Database* directory moved to root to facilitate manual database installation. (TFS #1099)

Correction: Corrected error that would make Follow Print jobs appear with multiple entries in MFP terminals if usernames existed in multiple domains.

Correction: Trigger added to prevent empty migration schemas from causing client issues. (TFS #1061; OTRS #403005)

Correction: Trigger added which fixes MMC issues when *Action* in migration schema is set to "Remove" or "Ignore". (TFS #1109; OTRS #402840)

Correction: Packaging fix concerning which reports were delivered in the release package. (TFS #1114)

79.3 Web GUI

Enhancement: Installation package: *WebGUI* directory moved to root to facilitate manual web installation. (TFS #1106)

Enhancement: *Queueinstall* page redesigned. (TFS #1121)

Correction: In the left-hand search panels in the *Queue Manager* and *Monitoring* pages, removed the “Results: All” option to prevent exceptions in environments with large numbers of printers. (TFS #1564)

Correction: *Queueinstall* anonymous login repaired.

Correction: *Queueinstall* helptext issue corrected.

79.4 Standalone tools

79.4.1 Server Installer

Enhancement: Onscreen help texts improved.

Correction: Added password validity checks for database login creation. Earlier, logins could be created with passwords that contained unsupported characters or did not fulfill the local system’s complexity requirements, making the database installation fail. (TFS #1155)

79.4.2 Configuration Manager

Feature: Checkbox in *Features* → *Embedded Terminals* → *General* to enable/disable 3rd print redundancy (enabled by default).

Enhancement: Checkbox in *Programs* → *WebGUI* → *General* to set whether users without “write” access should be able to install queues.

Enhancement: New defaults in *Programs* → *WebGUI* → *Multi Language Support*; multi-language support is disabled, and English (instead of “auto”) is default language.

Enhancement: Cleanup of the *Programs* → *WebGUI* → *Queue Install* tab. (TFS #1111)

Correction: In *Programs* → *MMC* → *General*, when the *Enable Follow Print* checkbox is checked (default), *featureFPactive* is now set to 2, not 1. (TFS #1107)

80 2011R2SP1M

Server	2011.2.104	Web GUI	11.2.19117	Date: 2012-11
Registry	2011.2.104	Win client	2011.2.102	
Database	2011.2.104	Mac client	1.0, 1.01	

80.1 Server, database

Protocol, deployment and HID service modifications for compatibility with Mac clients.

Note: 2011R2SP1M remained the only server release that was compatible with Mac clients until release 13R1 13.1.0.

81 2011R2SP1 2011.2.103

Date:	2012-10-31	Database	11.2.103
Server	11.2.103	Web GUI	11.2.19116
Registry	11.2.103	Client	2011.2.102

81.1 Server

HKLM\SOFTWARE\CirratoSrv\CPT\clearSession default changed to 60.

Cirrato External Accounting Server for Xerox devices:

getFPPrinterIdFromIp modified; does not return local printers.

VAT amount in price plans would become incorrect for copying; possibly only for metadata logged on the PayEx site. The withdrawn sum was not affected.

“Print fail” in *postPrint* used the wrong PayEx API, which could cause any reservations to be locked for a full week.

If Client Billing users printed towards a code whose owner used a different price plan than their own, the users’ price plans were still applied.

Corrected error in CirratoPak that sometimes made UUIDs appear in the printer model list.

User/password authentication did not work from non-domain computers, even if an authentication rule existed for blank domain.

A problem with LDAP referral would make the server crash if base DN for Active Directory had been set incorrectly.

Corrected error with handover rules. If a handover point went offline, jobs were not redirected to lower-prio handover points in the same IP range, or to the default simple handover point.

When jobs were debited to a Client Billing owner, the user’s account was still charged.

Copying on certain Ricoh models would return debiting information details in non-standard format (e.g. one duplex page debited as two simplex pages). The sum was correct.

Corrected bug in PayEx service that caused memory overwrite.

Corrected error that could cause a server crash when sending driver or configuration to client.

81.2 Database

New report: *Departmental Accounting* – used with client billing, shows users grouped into departments (using the AD *Department* attribute) and how much each user printed.

Installation script *MigrationSQLToRunOnlyOnce.sql* removed.

spc_priceplan_tbl_ticket_price did not calculate price per square unit (for plotter printers).

81.3 Web GUI

Web Service API modified to support user impersonation for Windows Authentication.

Metadata-related security problem taken care of.

If the language was changed in the login screen, the user would become logged in with incorrect user rights.

If default login mode had been set to "selfservice", it was then not possible to login on the administrator web.

Corrected WS-API problem that could return empty job lists on certain embedded terminals.

Corrected character case error that could cause Session ID failures.

An error in the Self-service web caused the job list and the job properties dialog to display conflicting information

Client Billing: A user's status now cannot be changed from "owner (debit)" to "permitted user" if the user is already owner of one or more billing codes.

The web service function *LoginDirectory* would return a valid session even if the domain submitted in the call was empty or incorrect. Subsequent calls to *GetBySessionId* would then return an empty job list with the previously returned session ID.

It was not possible to remove client billing users.

81.4 Standalone tools

Windows authentication is now fully supported in the Server Installer. A user account for services can be configured.

Service user impersonation for the web can be configured in the Configuration Manager.

82 2011R2SP1 2011.2.102

Date: 2012-09

82.1 Server

Command line parameters to migrate driver packages from DPT to Cirrato have been removed from *dptsrv.exe*. A separate utility program for this is available upon request.

Cirrato External Accounting Server for Xerox devices:

Changed to run as Local System instead of Local Service. Local Service is not supported by SQL Server with Windows Authentication because no credentials are submitted.

Corrected error that made client authentication with username/password only work for the first print job.

Cirrato printing service would crash during communication with the VDMS gateway.

Cirrato printing service would crash at payments toward PayEx if printer names or location names were too long.

Debiting for copy jobs through VDMS terminals did not work.

At logins toward printers where identification was made towards the *Fp box IP* field in the Cirrato MMC, the wrong price plan was set for Follow Print, copy, and scan.

On embedded clients, Follow Print jobs debited to a Client Billing owner were not released if the user had no associated PayEx account, or an account with too low balance, because the connection to the owner had not yet been established.

Fixed various issues with debiting deviating from price plans.

82.2 Database

Control of user's database schema implemented at installation or upgrade.

Automatic rollback implemented to correct problem with database lockups. Affected SDs:
sp_report_batch_do, *sp_report_jobs_detail_calc_do*,
s_report_insert_tbl_report_jobs_detail_info

82.3 Web GUI

Login security problem corrected.

Hard-coded text in PayEx web configuration files made configurable.

83 2011R2SP1 2011.2.101

Date: 2012-08

New PayEx API requires this release or later.

83.1 Server

Enabled "http" protocol field when creating printers through MMC interface.

PayEx transactions are logged to *tbl_payex_transaction_log*.

Corrected error that made the "Trust" authentication rule not work for LPR print jobs; jobs were deleted even though *ldapPassthrough* had been enabled.

Removing a price plan from a printer sometimes did not work. It no longer appeared in the MMC but was still applied when printing towards that printer.

If Client Billing users printed towards a code whose owner used a different price plan than their own, the users' price plans were still applied.

Corrected rounding errors in price plans.

If an incorrect domain was entered, it was possible to login on terminals with an incorrect password.

Only one of the user member groups would be found with OpenLDAP.

Cost center would not always get charged for printout with billing code.

If using LPR printing with client authentication active and "Trust" or "Trust user from LPR" subnet, printouts would be deleted.

If *handoverFPActive* was set to 1 and printing from a handover point to a Follow Print queue, the client was instructed to perform handover to itself, which failed and the spool file was deleted. The job was still in the Follow Print queue, listed as waiting, and was not deleted until an attempt was made to print it at a terminal.

HIDsrv truncated 35-bit card numbers to 9 (instead of 10) HEX characters.

83.2 Database

Database installation would fail if a hyphen character ("-") existed in the database name.

83.3 Web GUI

Corrected general error management issues that would sometimes cause the Web to crash.

Corrected various problems with user group rights:

Members of Read Only group could not log in on the Self-service web.

Read Only group could update Client Billing user status.

Technician group could see ticket price in plain text (not scrambled) in the *Support* tab.

Minor issue with region tree expansion/collapse in the *queueinstall* page.

The *Quota* table was not populated in the *Events* tab of the Self-service web, even if refills and withdrawals had been made.

Transaction history would sometimes be incomplete in the *Quota/User* tab, displaying refills but not withdrawals.

Client Billing: If the <Enter> key was pressed when in the *Add new billing code* panel, a “delete folder” confirmation message would appear. If the *OK* button was then clicked, the node was deleted.

Client Billing: When searching users in the *Search users in Active Directory* panel, the *Add* button appeared but the “Add” text in it was missing.

84 2011R2SP1 2011.2.100

Date: 2012-06

The first release that includes the Quick Start Wizard.

84.1 Server

Improved performance when dispatching Follow Print jobs.

Added *HKLM\SOFTWARE\CirratoSrv* registry functionality:

moveClientPrintJobs = 3 is a more efficient way of changing IPs on tickets upon client session creation. (*moveClientPrintJobs* = 2 would read the ticket IDs from the database and then change the IPs one by one, which consumes a lot of memory.)

Added *HKLM\SOFTWARE\CirratoSrv\debug* registry values: *disableSession*, *disableInventory*, *disableMigration*, *disableSearch*.

disableSession = 1, close connection to client which tries to create a new session without returning a session ID; this will cause older clients to retry. *disableSession* = 2, send dummy token to client

disableInventory = 1 ignores clients delivering inventory data

disableMigration = 1 ignores migration requests from clients

disableRegionSearch = 1, disable regions search for MMC. *disableRegionSearch* = 2, disable for MMC and clients

disableSearch = 1, return empty list when user searches for printers.

HKLM\SOFTWARE\CirratoSrv\ldapReferral: added options 2, 3. 2 = LDAP referral is off until a redirection is found and then on. 3 = is off and then temporarily on for one call.

Client will retry sending handover result to server. Should decrease number of lost jobs under poor network conditions. New registry value:

HKLM\SOFTWARE\CirratoSrv\doNotSendHandoverAck.

If *doNotSendHandoverAck* = 1, no acknowledgement will be sent by server to client that the handover has been noticed correctly.

Multi-domain support for IPP/LPR printing. Username/domain is looked up in LDAP/database on print request. New *HKLM\Software\CirratoSrv* registry values: *lookupUserOnPrintRequest* and *lookupUserForNewSession*.

New registry value:

HKLM\SOFTWARE\CirratoSrv\ClientAuthentication\setEmptyUserForSimpleClient

If = 0, use old behavior. If = 1, do not set empty username for trusted simple clients.

Improved performance when logging ticket information.

Improved `dptsrv -t -u` output when *ldapPassThrough*=1.

Shortened the messages sent to client when printing to deleted queue.

Changed default registry settings to simplify new installations.

Adding support for PayEx AutoPay API.

Improved client billing rights management.

Improved memory handling to reduce memory leaks.

DNS lookup failure is now logged to application event log.

Sorting of rules should be queue rules first then printer and then rules sorted by region.

Improved error messages to client when using client billing.

Added memory dump functionality to aid in troubleshooting in the event of a crash.

Added error to application event log and console if driver cannot be written to driver directory when CirratoPak is uploading. The default driver directory is now *C:\Program Files (x86)\Cirrato Technologies\Server\DRV*

WS-API will now return error code to terminal for calls to *Ticket.RegisterNew* with invalid session ID.

HKLM\SOFTWARE\CirratoSrv\putTicketErrorCode default changed to 1. Last error code is now logged with the ticket. This makes it possible to look for printouts that finished successfully, and the last problem that happened (such as "no contact with client").

HKLM\SOFTWARE\CirratoSrv\useHandoverType default changed to 1.

HKLM\SOFTWARE\CirratoSrv\heartbeatFailCapture default changed to 1. Money will be captured from PayEx in case the server does not hear from the client after printing has commenced.

Cirrato Card Reader Service:

Improved messages when executing from command line.

Elatec TCPconv support added.

Changed *validRegex* registry setting to prevent users from retrieving other users' printouts.

Improved HID reader support.

Cirrato External Accounting Server for Xerox devices:

Jobs completed with errors (for example, the device is out of staples) are now counted as completed normally.

Jobs that contain an unknown paper size are registered.

Support for Xerox Phaser 3635 MFP which uses chunked encoded for HTTP transfers.

Regions named, for example, “BuildingA\Floor1” and “BuildingB\Floor1” can now be created when *uniqueNames=2*

Domain was forced to main server unless *HKLM\SOFTWARE\CirratoSrv\vdmsMultiDomain* was set.

Plotter support broke SNMP counters for printers with ambiguous price plans.

Deleted queues were not removed on the client even if *deletePrinterOnNonExistingQueue* was enabled and no message was sent to the user.

Client billing did not work for clients on trusted networks.

Scans were being charged as printouts.

Fixed client version checks to pass if *clientCheckVersion* set to “false” in registry.

A pre-spool failure would lead to a post-spool failure.

Fixed rounding errors in price plans. *HKLM\SOFTWARE\CirratoSrv\doublePrecision* must now be set to the number of decimal places wanted in the price plans. The default is now 4.

Changed the way client sessions are created. If *HKLM\Software\CirratoSrv\UseSessionQueue* is set to 1 (new default), client sessions are not written to database immediately, but instead inserted into a queue. A single thread polls the queue and writes the sessions to the database. Until the session is written to the database, some functions may not work correctly (client billing, sending messages to client, user/password authentication, PIN code creation, and printing by users in unauthenticated groups).

Selecting absolute price on one price plan no longer erases multipliers in the other price plans.

Actual cost of a Follow Print job would not match what was listed in the price plan.

Quota was withdrawn even if *registerNewTicket* in WS-API was called with *precalc=”true”*.

registerNewTicket in WS-API did not withdraw quota exceeding the amount defined in *HKLM\SOFTWARE\CirratoSrv\CPT\Session\defaultReserveAmount*.

ldapFailPassThrough works again.

Corrected match logic in page limit rule.

Card Reader Service: Corrected problem that made HID reader get out of sync.

Cirrato External Accounting Server: Corrected problem where LDAP lookup failure would cause a missed log entry under some circumstances.

84.2 Database

50 new indexes introduced for improved performance.

Naming standard implemented on indexes.

New tables for major, minor, and jobtype, for improved ticket status information.

It is now possible to disable updates from inventory to report tables.

New support SPs:

Report_Printing – shows successful printouts per hour during configurable interval.

Report_Monitor_Error_Ticket – shows number of erroneous tickets per hour.

Report_Monitor_NumberOfRows – shows number of rows in all tables, or in selected table.

Report_Monitor_Trans_Ticket – shows average number of tickets per second and minute per week, day and hour, or configured interval.

Report_Monitor_Long_Running_SQL – shows which SPs use most processing time in the database.

Report_Monitor_Most_used_SP – shows most reused code run, including *query_plan*.

Scheduled job for rebuilding and reorganizing tables and indexes.

New tables: *dba_indexDefragExclusion*, *dba_indexDefragLog*

New SP: *dba_CirratoIndexDefrag_sp*

New SP: *sp_CreateNewLoginAndUser* – creates Cirrato login and user.

Trimming of web SPs that read from *tbl_ticket* and *tbl_ticket_log*.

@@Identity changed in SP to SCOPE_IDENTITY() where appropriate.

The SP used by the Cirrato Web and only does reads towards *tbl_ticket_log* has NOLOCK (uncommitted reads) encoded.

sp_report_duplex_color_share shows all job types (new scan, fax, copy).

FinishedDate in *tbl_report_jobs_detail_info* is populated also for copy, scan, and fax tickets. Updated at upgrade/installation.

New installation script: *MigrationSQLToRunOnlyOnce.sql* – for conversions that can only be run once.

New installation script: *InstallSQLJobs.sql* – to create schedules jobs under SQL Server Agent instead of in Cirrato.

Price plan redesigned with new tables: *tbl_cirrato_itemPrice* (price model), *tbl_cirrato_price* (price plan).

New views: *vw_ticket_price* and *vw_ticket_log_price* – show price per ticket. This means the price model does not need to be recalculated every time.

New view: *vw_cirrato_BWColorPrice* – to calculate price without ticket.

Views towards *tbl_report* and *tbl_priceplan* have NOLOCK (uncommitted reads) encoded.

Merge of Cirrato ticket and JBA ticket. This means JBA ticket receives additional data from Cirrato ticket, such as *QueueId*, *jobsizes*, and *priceplan*.

Expanded session timeout column: *cpt_sessionTimeout* in *tbl_cirrato_cpt_session*.

Loading of job tickets: Report loading can now be made at selected periodicity – monthly, weekly, daily, or hourly basis. Configurable number per periodicity.

Delay, in hours, can be set at loading of job tickets for JBA. This means a larger time span (x hours) is accepted since JBA tickets are post-created in Cirrato.

At Follow Print it is now configurable whether printer model should be checked between the Follow Print queue and the physical printer at printout.

Client_billing redesigned, support for Active Directory groups implemented.

spc_log_ticketX takes a configurable number of logged rows at a time and move them to *tbl_ticket_log*, leading to only brief locks. This is a useful SP is *tbl_ticket_log_trans* is large.

sp_report_user_summary.sql, *vw_report_jobs_detail.sql* – view and SP changed to handle external accounting. *vw_report_jobs_detail* now runs toward the *report_jobs_detail* tables. Variant SP runs towards the *report_jobs_detail* instead of *tbl_ticket_log*.

Correction in upgrade scripts from release 2.0.0R16P6 to 2.0.0R16P8.6. (OTRS #401563)

Corrected problem that could make double brand nodes appear in the MMC. (OTRS #400477)

84.3 Web GUI

Settings in *appSettings.config* are now case insensitive.

Which tabs should be visible in the Self-service web is configurable in *appSettings.config*.

Client Billing page and underlying database structure completely redesigned. Client billing users can now be administrated in the Web GUI, users and AD groups can be associated with billing codes, and users with appropriate status can be associated as owners of billing codes.

Dutch language selection added.

“Changed by” column added in quota transaction history, shows who has added quota to a user’s balance.

Job names truncated to 64 characters.

PayEx autopay added in the Self-service web.

Corrected various problems with user group rights. Users logged in as “user” could see other

user's jobs. The *Support* tab was visible for all users. Support group membership was required for Technician group.

Date formatting corrected. The Web GUI now displays dates in the default format of the local browser's language setting.

Autocard page login corrected. If accessed via URL (*http://<server>/cirrato/autocard*), no other tabs are visible.

Corrected error with jobs not being visible in the *Statistics* page.

Quota balance limited to 9 characters, to prevent data type overflow.

Empty job names presented as “---”. When the field was empty, the job could not be selected.

Corrected problem with non-English characters (such as å,ä,ö) appearing as junk characters.

The web would crash when “Allow admin users to manipulate printer” had been set.

Ticket.RegisterNew would not work when user had logged out.

84.4 Standalone tools

84.4.1 Server Installer

Added functionality for creating database and database login.

84.4.2 Configuration Manager

Extensive further development for improved quality and additional features.

Quick Start Wizard added for basic server configuration.

WebGUI/Upgrade tab replaces the AppSettings Upgrader tool.

85 2011R2HF6

Date:	2012-06	Database	2011.2.2
Server	11.2.2	Web GUI	11.2.7038
Registry	2011.2.2	Client	2011R2

85.1 Web GUI

Self-service: Directly accessing the *Card registration* URL did not default to the *Card registration* page after login. (OTRS #402211)

The login page style sheet did not accept long domain names. Line break setting in domain name field disabled. (OTRS #402213)

86 2011R2HF5

Date:	2012-05	Database	2011.2.5
Server	11.2.5	Web GUI	11.2.7187
Registry	2011.2.5	Client	2011R2

86.1 Server

New *dptsrv.exe* (also for PayEx), additional stored procedures, and PayEx DLLs.

Plotter support broke SNMP counters for printers that had both page price and area price in the same price plan; nothing was logged, making the price charged for printouts incorrect. Now only printers/plotters with counter programs that include area/ink counters will set price based on area. (*OTRS #401415*)

87 2011R2HF4

Date:	2012-04	Database	2011.2.4
Server	11.2.4	Web GUI	11.2.7038
Registry	2011.2.4	Client	2011R2

87.1 Database

Performance enhancements of log trim batch job (stored procedure *sp_log_trim_do*).

87.2 Standalone tools

87.2.1 Configuration Manager

Added support for JBA configuration.

Enhancement of Configuration Manager, minor issues resolved.

88 2011R2.3

Date:	2012-04	Database	2011.2.3
Server	11.2.3	Web GUI	11.2.7163
Registry	2011.2.3	Client	2011.2.3

88.1 General

Various product adjustments to conform to the requirements of Section 508 of the US Rehabilitation Act regarding accessibility for vision-impaired users.

88.2 Web GUI

A hidden *Jump to page content* menu added at the top of the web GUI, which spares mouseless users the effort of tabbing their way to the page content.

89 2011R2.2

Date:	2012-03	Web GUI	11.2.7009
Server	11.2.2	Client	2011R2
Registry	2011.2.2	Xerox client	11.2.0
Database	2011.2.2	Xerox terminal web application	11.2.4412

89.1 Web GUI

Added missing Dutch language on *PIN* tab in web GUI. (OTRS #401954)

89.2 Standalone tools

89.2.1 Configuration Manager

CirratoMail tab removed.

89.3 Xerox terminal

Short ID was always visible on Xerox terminal. There is now a setting in *appSettings.config* of DXTweb which determines if the Short ID should be masked or not. (OTRS #401953)

Corrected the order in which Follow Print jobs were listed on Xerox terminal. (OTRS #401802)

90 2011R2

Date:	2011-12-21	Database	2011.2.0
Server	11.2.0	Web GUI	11.2.6464
Registry	2011.2.0	Client	2011.2.0

90.1 Server

Easy Follow Print support for Elatec TCPConv card reader added.

Easy Follow Print handling is now multi-threaded.

Table *tbl_scheduled_job* now checked every 10 minutes for scheduled tasks to be executed.

Price plan can now be chosen based on terminal hostname, not only by IP address.

Price plan decimal precision can now be configured using *[CirratoSrv\doublePrecision]*. The setting determines the number of decimal points to be truncated to.

For example, setting 1 truncates 123,456 into 123,4. Setting 2 truncates 123,456 into 123,45.

If a price plan is specified in *[HKLM\SOFTWARE\CirratoSrv\DefaultPriceplanOverride]*, no database queries are made to check which price plan to use, improving performance.

Added command line option to create brands: `dptsrv.exe -cb <brand>`.

Added command line option to test username translation: `dptsrv.exe -t -x`

When translating a username, the original user is preserved as the owner of the ticket. The translated username is instead entered as a ticket feature where data1 and data2 are set to username and domain respectively.

The reason for this change is because the user must be logged onto the MFP using the original user and domain. Cirrato cannot translate the user logging onto the MFP; the WS-API must pass to the MFP the user/domain where it found the user. If that user/domain was translated, functions in the MFP which need to query LDAP will not find the user (such as color groups).

DNS lookup of IP address or hostname from terminal.

If *[CirratoSrv\FPBackResolv] = 1*, do DNS lookup of hostname or reverse DNS lookup of IP address. If *FPBackResolv = 2*, do lookup using only hostname, not FQDN. If *FPBackResolv = 0*, no DNS lookup is performed.

DNS lookup is done before choosing price plan, when registering unknown cards, and when doing easy Follow Print (if *[CirratoSrv\featureFpActive] = 2*).

Added registry values *[CirratoSrv\defaultPaperSize]* and *[CirratoSrv\defaultPaperSizes]*. *defaultPaperSizes* is semicolon-separated list of paper sizes, which are to be replaced with the paper size determined by *defaultPaperSize* (with values defined in *tbl_papersize*).

For example, *defaultPaperSizes = "1;abc;5;;;"* and *defaultPaperSize = 9* will convert Letter and Legal into A4.

Added registry value [*CirratoSrv\CPT\PinCode\pinRequiredQueues*], a semicolon-separated list of queue IDs for which a PIN is always required to release printouts. If [*CirratoSrv\rulesActive*] and [*CirratoSrv\postRulesActive*] are both 0, the PIN rule is applied anyway to the specified queues. Hence, there is no need to check the LDAP to determine groups.

If the LDAP query in pre/post-spool takes too long, it will interfere with the communication with the client and tickets will get stuck in the CREATED state and will be deleted automatically after 5 minutes.

Added registry value [*CirratoSrv\usernameTranslationForceDomain*] which is used instead of [*CirratoSrv\forceDomain*], since *forceDomain* cannot be used in conjunction with [*CirratoSrv\ldapPassThrough*].

Added registry values [*CirratoSrv\snmpTrapPort*] and [*CirratoSrv\enableEmailLogging*] which are used by dptmon.

Added registry value [*CirratoSrv\ldapTimeout*] – configurable timeout for LDAP bind and search; maximum number of seconds to wait for search results. If this option is not set, Cirrato uses a default timeout value of 4 seconds.

Added registry value: [*CirratoSrv\installLog*]. By default, logging is performed using only inserts (not insert and update) to the database, which prevents database deadlocks when there are many queue installs at the same time.

Duplicate [*CirratoSrv\odbcShortIDQuery*] removed and %CARDNUMBER% changed into %SHORTID% in install script.

In rule messages, %ACTION%, %DOCUMENTNAME%, %PRICE%, %MAXPRICE%, %PAGES%, %MAXPAGES%, %QUEUEENAME% and %LOCATION% are substituted if [*CirratoSrv\verboseRuleMessage*] ≠ 0.

If an IP address is sent with a printout submitted by EUT_API (*submit_job.dll*), the IP is now used when determining which handover point to use.

SNMP check is now done during direct printout only, not for Follow Print, if [*CirratoSrv\snmpCounterActive*] = 2.

Network connectivity test for client implemented as a CLI option in server.

Rule based on job price is now disabled.

PIN request moved to after username translation.

Username translation will now translate only username if no new domain is given.

Added message to user and logging if using Wallet+external priceplan but non-PayEx binary.

Improved verbose output when easy Follow Print fails to bind to local port.

Client IP address changes are now tracked using the Windows machine GUID by default.

[CirratoSrv\moveClientPrintJobs]=2

Alarm Programs feature is now enabled by default and visible in the MMC.

[CirratoSrv\featureAlarms]=1

Queue and region names must be unique by default. *[CirratoSrv\uniqueNames]=2*

Terminal support enabled by default. *[CirratoSrv\CPT\listenerPort]=5050*

LDAP referral disabled by default. *[CirratoSrv\ldapReferral]=0*

By default, the server will let jobs through if the domain does not match any domain in the Cirrato server and/or if LDAP does not respond.

[CirratoSrv\ldapPassThrough]=1

[CirratoSrv\ldapFailPassThrough]=1

When looking up card numbers and Short IDs, the Cirrato database is used by default.

[CirratoSrv\odbcCardLookup]=1

[CirratoSrv\odbcShortIdLookup]=1

Follow Print jobs that cannot be printed are moved back to the Follow Print queue by default.

[CirratoSrv\fpprintAge]=60 (minutes)

[CirratoSrv\heartBeatFailReturnFPTicket]=1

[CirratoSrv\returnFPJobOnConnectionRefused]=3

Caching of group memberships, price plans, and region structures enabled by default.

[CirratoSrv\useCachedGroups]=1

[CirratoSrv\useCachedPricePlan]=1

[CirratoSrv\useCachedRegions]=1

Retried handover attempts enabled; default time to make new attempts is 5 minutes.

[CirratoSrv\restartHandoverFailed]=5

Default number of ODBC connections for Short ID lookups changed to 2.

[CirratoSrv\odbcShortIDNumConnections]=2

Default number of database connections for username translation changed to 2.

[CirratoSrv\usernameTranslationODBCnumConnections]=2

Default port for fallback handover point changed to 5001.

[CirratoSrv\defaultSimpleHandoverPointPort]=5001

Changed default URL for Self-service. *[CirratoSrv\selfServiceURL]*

Changed defaults for *[CirratoSrv\AutoRegistration\autoRegUrl]* and shortID/domain settings for terminal.

PayEx defaults changed.

Changed defaults for registry values used by monitoring function.

Elatec network card reader support reverted because it broke HID network card reader support.

Database column `lastHandoverCheck` in table `tbl_handover_point` was NULL, with the result that new handover points were not monitored.

Removed transformation to uppercase when terminal does username/password/domain login. The transformation would cause the login to fail in some places, if the LDAP requires lowercase to find the user.

Select top 1 added to `checkClientTrust`. Previously, if a default rule would be added with prio 0 and a specific rule with prio 1, both rules would be returned by descending prio (1, 0). Hence the default would always apply.

Logging to `tbl_ticket_log` failed when job release was denied because of region restriction if `[CirratoSrv\fpRegionRestrict] ≠ 0` and `[CirratoSrv\regionRulesActive] = 0`.

Added SQL wash to transaction text since users may be creative, for example when pausing/stopping printers through the Web GUI.

Listing Follow Print jobs in terminals did not work if `[CirratoSrv\CPT\Session\sessionTimeout]` was set to a value higher than 32767.

Translation ODBC query changed in install script. It had the wrong kind of quotation mark in the registry, which corrupted the query.

When using the Unauthenticated Groups feature, the username would only be correct for the first printout.

If `[CirratoSrv\useHandOverType]` was not set, clients on trusted networks would still be forced to do handover.

If a job was proof-printed and then moved from Follow Print to a direct queue using the web GUI, it would get printed many times until it hit the TTL limit.

`[CirratoSrv\cirratoWalletAutoAmount]` did not work. If set to 2, quota will now be awarded to a user the first time he prints to a queue which has a wallet or wallet/external price plan.

Corrected error with built-in drivers. The printer model would sometimes get set to gibberish or an empty string, causing installation of queues using built-in drivers to fail.

Username for LPR jobs contained trailing white space if `[CirratoSrv\unauthJobLPR] ≠ 0`.

With username translation enabled, long usernames were truncated.

Username translation and automatic creation of PIN codes did not work in conjunction.

Page limit rule did not work with document name.

IPP printouts would not be charged.

Price plan was not applied when copying.

New rules added in MMC would be corrupted.

There was a decimal rounding error in the MMC.

Apostrophes (') did not work in the MMC.

PIN requests are no longer sent to simple clients.

PIN requests are no longer sent to EUT_API client.

LDAP based username translation corrected (method 2 – change to attribute value).

Jobs which should require PIN could be printed without PIN.

"Error in query" was logged to the Windows eventlog when logging on with an unknown card and PIN.

PIN max length was not taken into account.

Only one PIN request was sent at a time.

Server inventory database call now escapes single quotation marks before writing to database.

Automatic creation of PIN codes is now disabled by default.

Corrected error in short ID query.

Short ID and card number lookup did not work with more than 2 domains.

If *uniqueNames* was set, regions could not be recreated.

QueueLocation is now set correctly.

Stopping printers did not work correctly if message was not set.

Corrected region problem for local printers.

Documents with apostrophes (') in the name could not be printed.

90.2 Database

Report generation now includes all successful Copy, Scan, and Fax with regards to *tbl_report_jobs_detail* as well as *tbl_report_jobs_detail_info*.

New report: "Job by type and user" shows all types of jobs; Print, Copy, Fax, and Scan.

External Accounting included in report generation. Selection is done based on “FinishDate” instead of “EventDate”.

Scheduled jobs modified. Jobs are now set to run over specified intervals from specified start dates/times.

LogTrim updated and modified.

“UserPrintFull” parameter in *tbl_property* now removes rows in *tbl_ticket_log* unconditionally. New parameter: “UserPrintpartial” removes all tickets of the type Information. See also ‘Corrections’ below.

New stored procedures for WalletAPI to manage entries in *tbl_cirrato_wallet*:

“cirratoAPI_walletUserCreate”	creates a user and adds an amount
“cirratoAPI_walletUserAlter”	alters an amount for a user
“cirratoAPI_walletUserDelete”	deletes a user
“cirratoAPI_walletUserList”	returns a list of users

“UserPrintFullMaxRowDelete” and “UserPrintPartialMaxRowDelete”; new LogTrim parameters that resolve a problem with excessively long run times for log trim jobs. Trimming is limited to a configurable max number of rows to be removed; log trimming stops when this number has been reached.

“countTransactions”; new LogTrim parameter that limits number of rows to be removed at a time. This prevents transactions from growing overly large and taking resources from other operations in the Cirrato database.

Deprecated parameters removed from *tbl_properties*: “ShowFPQueues”, “ShowFPRegion”, “ShowNormalQueues”, “ShowNormalRegions”.

90.3 Web GUI

New tab: *Printer Info*, showing information on recently used printers.

The Card Registration feature has been moved to the Self-service page.

Short-ID administration now available on Self-service page.

PIN administration now available on Self-service page.

Card registration now available on Self-service page.

Helpdesk personnel can administer user PIN on *Support* page.

Improved defaults in *appSettings.config*.

Improved searching for queues in the *Queue assignment* tab.

Improved import of user quotas; can now handle both comma and dot in quotas.

Removed SQL Server Management Objects (SMO) requirement.

Improved navigation among tabs.

Invisible queues are not shown on *Queue install* page.

Job Type column is not shown on *Queue Manager* and *Monitoring* pages.

Job type 'Waiting' renamed 'Queued'.

Ticket status shown when job is in Queued state. If status "Delayed", delay reason is shown.

Expanded functionality for reactivating inactive Client Billing codes.

No search results would be found if the "from" and "to" dates were the same. This affected the following pages: *Monitoring*, *PrinterLog*, *JobList*, *QmanagerLocal*, *QmanagerQueue*, *QueueLog*, *QueueManager*, *selfservice\MyJobs*, *selfservice\MyJobsHistory*, *Support*.

Client Billing tab was not shown for Helpdesk users in *clientbillinggroup*.

When searching for jobs on the Self-service page, the order was incorrect. Jobs are now ordered by creation date in descending order (latest on top).

Users could see events for other users on the Self-service page.

If the default language of the database login was using the date format DD.MM.YYYY, reports and statistics did not work.

When adding users in the *Quota* tab, the domain drop-down contained only the domain given by the *appSettings* key "MFPDefaultDomain". The drop-down now contains all domains given by the key "QuotaDefaultDomains" instead.

Users with "user" rights could see the printouts of other users.

It was not possible to create a new user in the *Quota* tab if the user existed before. The new amount will now be added to the old amount and the account reactivated.

If using *HttpHeaderAuthenticateAutoLogin*, domain was not set correctly, which caused problems with card registration.

The *Recent errors* section on the Self-service page showed events which were not errors.

Price was not displayed for Follow Print jobs.

Search for exact username matches did not work correctly for client events.

User is now prompted when trying to delete a node containing active Client Billing codes, and when trying to overwrite a deleted Client Billing code.

90.4 Standalone tools

90.4.1 Installer

Cirrato Quick Installer renamed Cirrato Server Installer. Added functionality for installing vendor-specific components.

90.4.2 Configuration Manager

Extensive further development for improved quality and additional features.

90.4.3 Other

AppSettings Upgrader, new command-line tool that merges old and new copies of the *appSettings.config* web configuration file, eliminating the need to re-enter settings manually during system upgrades.

91 2.0.0R16P8.6

Date: 2011-06

Note: Includes separate server packages for installing manually and for using the Installer.

91.1 Server

Extended logging at exceptions in *sendPrintCommence*.

Improved messaging when client enters empty username or password in plain text dialog.

Changed architecture for XPx64 from 0 to 9.

resetFprintHard will now reset *cptSession*

[CirratoSrv\heartBeatFailReturnFPTicket] modified – can be set so that all unprinted jobs with Heartbeat Fail are moved back when the next user logs on.

[CirratoSrv\CPT\Session\moveAllStoredProcedure] is now enabled by default for improved performance.

[CirratoSrv\ldapReferral] now disabled by default.

[CirratoSrv\ldapFailPassThrough] value corrected.

Corrections in *[CirratoSrv\CPT\Session]* registry for X86.

Broken ODBC connection replacement corrected.

Resolved minor handle leak for external counter programs.

91.2 Database

Information on changes made to the database for this release is not available.

92 2.0.0R16P8.5

Date: 2011-02

Note: Includes separate server packages for installing manually and for using the Installer.

The first release that includes the Cirrato Quick Installer (later named the Server Installer) and the Cirrato Reporter.

92.1 Server

SQL queries are now redone three times if the SQL server reports deadlock. If this happens it is logged to the Windows event log.

Authentication rules are now selected from *tbl_handover_rules* with highest priority.

Price calculation in *moveToPrinter* can be turned off (No_Price_calculation in *tbl_property*).

Optimized updating of *tbl_cirrato_cpt_session*.

Timeout for reading network data increased from 5 to 15 seconds.

If setting Location as “N/A” when creating a printer, no queue is created automatically.

Logging added when tickets cannot be released because of region restriction.

Added registry value [*CirratoSrv\eventlog*] which, if set to 0, turns off logging to the Windows event log.

[*CirratoSrv\handOverFPActive*] – When set to 1, handover is performed on all jobs to Follow Print queues.

[*CirratoSrv\heartBeatFailReturnFPTicket*] – If set to 1, Follow Print jobs that get a “heartbeat failed” error are moved back to the Follow Print queue.

[*CirratoSrv\ignoreClientConfigID*] – Possibility to enter configuration to be excepted at print request.

[*CirratoSrv\ldapFailPassThrough*] – If set, jobs are let through even if the LDAP server fails.

[*CirratoSrv\returnFPJobOnConnection Refused*] – Toggles how Follow Print jobs are handled at connection timeout or connection refused errors.

[*CirratoSrv\secondaryShortIdLookupDomain*] – List of domains where the server looks for short-IDs when users log into terminals using short-ID.

[*CirratoSrv\CPT\setCPTReleaseTimeonReleaseAll*] – If set to 1, the same release time is set on all jobs released with *moveAllToPrinter*, for improved performance.

[CirratoSrv\CPT\Session\MoveBackJobsOnLogout] – If set, logging out moves unprinted jobs back to the Follow Print queue. This is logged as ECPT_LOGOUT (80) to *tbl_cirrato_cpt_session_log_row*.

[CirratoSrv\CPT\Session\MoveAllStoredProcedure] – If set, Release All uses a stored procedure. This is logged as ECPT_MOVED_ALL_JOBS_TO_PRINTER (81) to *tbl_cirrato_cpt_session_log_row*.

[CirratoSrv\fpRegionRestrict] now also affects *moveAllToPrinter* and simple Follow Print, if region rules have been made active.

Printer IP is now always resolved to the client when a SNMP read is made. (SNMP read previously did not work for printers that had been entered with hostname.)

The time “timeCreated” in *tbl_ticket_log* is now correct also for redundancy printouts.

Added resource de-allocation before any returns in *getUserForCardNumber* and *getGroupForUser*.

Resolved error that caused queues to block because of heartbeat failed.

Reduced memory leakage in communication with terminals and in the Cirrato protocol.

Removed leakage in the *TgEventLogger* class.

92.2 Database

Region Default is now included from the start.

View that prioritizes jobs now also considers extra time information given by *submitjob.dll*.

Updated stored procedure so that Copy jobs are included in reports.

Stored procedures modified to optimize report runs.

Faster logtrim script.

Optimized *spc_dispatch_ticket* and related views.

Optimized stored procedure used by terminals at Release all.

Price in *tbl_ticket_log* for copy/scan/fax is no longer always 0.

Changed search query used then the web application searches for wallets.

Added stored procedure used when terminals display print jobs, if set in *tbl_properties*.

Unauthenticated jobs are not to be listed in the Follow Print terminals.

New trigger on *tbl_region*.

Trigger changed so that the night job *sp_scheduled_job_run* does not fail.

Triggers changed in *tbl_cirrato_wallet*.

Changed max length of username and domain in *tbl_report_users* (now max 128 characters).

Changed foreign key on *tbl_ticket_feature*.

New tables: *tbl_cirrato_wallet_schedule*, *tbl_cirrato_wallet_schedule_days*,
tbl_monitor_queuedepth_log, *tbl_report_jobs_detail_info*, *tbl_report_jobs_queue_info*

New indexes: *tbl_cirrato_client_session*, *tbl_cirrato_client_session_log*, *tbl_cirrato_rule*,
tbl_queue, *tbl_queue_printer_map*, *tbl_report_jobs_detail*, *tbl_report_jobs_queue*,
tbl_report_users, *tbl_ticket* (originatingIp), *tbl_ticket_log*, *tbl_vdmsloginsession_log*

Changed indexes: *tbl_cirrato_wallet*, *tbl_configfile_map*, *tbl_report_status_cache*

New views: *view_log*, *vw_log_day_all*, *vw_log_day_erased*, *vw_log_day_printed*,
vw_ticket_log_data_extract

Added nolock: *vw_printer_idle*, *vw_ticket_prio*

New stored procedures: *s_create_report*, *s_report_insert_tbl_report_jobs_detail_info*,
s_web_getjob_byusername, *sp_cirrato_wallet_schedule_days_del*,
sp_cirrato_wallet_schedule_days_ins, *sp_cirrato_wallet_schedule_ins*,
sp_cirrato_wallet_schedule_upd, *sp_cirrato_wallet_schedules_get_active_by_day*,
sp_get_date_info, *sp_tickets_get_related_queues_byUser*, *spc_get_jobs_for_printer*,
spc_log_queue_statistics, *spc_move_jobs_for_printer*, *ws_get_followprint_by_sessionId*

Stored procedures not found in the new schema: *sp_test_autostore_get_login_user*

Changed stored procedures: *s_web_get_queue_List_By_region*,
s_web_get_queue_List_By_regiontree, *sp_get_tickets_sub*, *sp_get_tickets_sub_vdms*,
sp_log_trim_do, *sp_priceplan_get_ticket_price*, *sp_report_batch_do*,
sp_report_jobs_queue_calc_do, *sp_ticket_register_new*, *sp_ticket_search*,
sp_tickets_get_fp_by_user_printer, *sp_wallet_search*, *spc_dispatch_ticket*,
ws_GetCirratoClientSessionByClientIP

Resolved error found on some customer sites, where terminals could not register copy/scan/fax due to problems with price plans.

Solved problem with the column “scl_printerID” in *tbl_snmp_counter_log*.

Changed erroneous constraint in *tbl_cirrato_wallet_transaction*.

92.3 Web GUI

New PBX service; possibility to release printouts via telephone.

New timer control implemented.

Error code 101000 changed to indicate where in the WS-API the error appeared.

WS-API should no longer give empty *DisplayName*.

Domain field in the login page is no longer an input field.

Option of single sign-on implemented.

Option to hide errors in the Self-service web.

Users can no longer see wallet history.

Display adaptation for users with external accounts in currencies other than what is set in Cirrato.

User rights levels changed for improved security.

Improvements in listing printers and queues, and the *Monitoring* page.

Improvements in the *Queue Assignment* functionality.

The *Statistics* page modified.

Dutch translation.

Resolved problem with response times from LDAP at terminal logins.

Web page imaging/display errors corrected, some spelling errors corrected.

92.4 Standalone tools

Cirrato Quick Installer, new standalone installation tool by which a complete Cirrato server, including database and Cirrato web, can be installed through an interactive setup wizard.

Cirrato Reporter, new standalone helpdesk tool that analyzes the existing Cirrato installation on a machine and generates a detailed report, which can be opened and read in the Reporter's user interface.

93 2.0.0R16P8

Date: 2010-10

The first release that includes the Cirrato Configuration Manager.

93.1 Server

Cirrato Scan HandOver Point (CSHOP) introduced, a new feature for handling MFP-to-server communication – such as “scan to folder” options – without compromising local network security.

Print Service implemented – functionality for diverting print jobs to high-capacity print room.

Improved SNMP toner monitoring; the Cirrato monitor can now specify amount of remaining toner, for each color, as a percentage.

Persistent Client Billing codes implemented. After a client restart or changed IP, codes for a given user/domain do not need to be re-entered but are saved in database until normal expiry.
Registry value: [*CirratoSrv\ClientBilling\codePreselected*] [DWORD]

Implemented possibility to charge jobs to a cost centre associated with a given billing code (for example, a student organisation) instead of to the individual user.
Registry value: [*CirratoSrv\ClientBilling\chargeCostCenter*] [DWORD]

Group memberships, region structures, price plans and SNMP object identifiers can be cached during sessions, which reduces the number of database queries.
Registry values: [*CirratoSrv\useCachedGroups*] [DWORD]
 [*CirratoSrv\useCachedPricePlan*] [DWORD]
 [*CirratoSrv\useCachedRegions*] [DWORD]

Compression of files sent to handover points implemented.
Registry value: [*CirratoSrv\handOverCompressionActive*] [DWORD]

Max length of user names implemented.
Registry value: [*CirratoSrv\usernameMaxLen*] [DWORD]

Region restriction for Follow Print queues implemented; the possibility to restrict jobs to be sent only to Follow Print queues on the same or lower level in the region tree structure.
Registry value: [*CirratoSrv\fpRegionRestrict*] [DWORD]

Implemented possibility to start jobs which lack a debit code.
Registry value: [*CirratoSrv\ClientBilling\onCreateSession*] [DWORD]

Implemented cumulative delay between releases when the server sends multiple jobs to a client, to prevent refused connection attempts and No Contact errors.
Registry value: [*CirratoSrv\timeBetweenReleaseJobs*] [DWORD]

Implemented possibility to set max limit of jobs fetched at a time, to prevent timeouts and out-of-memory errors in terminals.

Added possibility to restrict which cards can be registered using Cirrato's automatic card registration function. A custom SQL query can check that registration information pages are not printed too frequently, and/or check that the card number belongs to a given range of cards. Registry value: [*CirratoSrv\AutoRegistration\allowedQuery*]

Added enum setting *ATN_LPR_USERTRUST* (-6), allows the administrator to set an IP range for receiving trusted LPR printouts.

Added possibilities to delete tickets by list and to delete all tickets for a user, reducing the number of server calls needed when deleting multiple tickets.

Monitor dispatch query modified so that reported Location includes full region path.

Server now saves information from client on copies×pages printed (the sum of those values).

Improved handling of Follow Print jobs waiting for other jobs in a printer queue. The time a job waits before moving back to the Follow Print queue, is now extended for each successful print. This prevents jobs from being moved back because of time-consuming jobs ahead of them.

Improved Custom User Database error handling. If losing contact with the database, the server will write to the event log and console, and shut down.

Improved error messaging when Cirrato Wallet or PayEx accounts are not found or have insufficient balance.

Implemented error logging upon "no contact with client during send time estimate" log events. The system will now also log what error caused the event.

Improved error logging on deleted jobs and ticket errors.

Improved logging of missing payments.

Support added for resolving DNS names that are not RFC compliant, for example names starting with a number.

Improvements in request handling.

Corrected unwanted behavior with unprinted jobs. If a sent job is denied from printing by the rules, the job is now deleted from the local workstation.

Resolved problems with stability of HID services.

Resolved problems with stability during *CirratoInventory* monitoring.

Cirrato Print Terminals now display correct decimals in account balance.

Resolved problems with job listing in the Web GUI when using the Custom User Database.

Resolved a problem where black/white print jobs, although debited correctly, would sometimes be listed as color jobs in the user history.

Changed MMC behavior which caused login problems with Konica Minolta terminals that had been deleted and later re-added with the same IP address.

Corrected an event timing problem that could previously result in ready and functioning printers not being used for some time.

Resolved a theoretical timing problem during load performance testing, regarding print jobs taking <10ms to send to printer.

93.2 Database

Continued implementation of “dirty reads” – using *with (nolock)* - in the Cirrato database, further reducing the risk of database lockups.

Improved database cleanup when rules are deleted.

93.3 Web GUI

New tab, *Queue Assignment*, where printer queues can be associated to computers and users.

Max limit of characters in balloon tips (127 characters) added, which prevents cut messages.

The web GUI read erroneous stored procedures that used *tempdb* instead of declared variables.

93.4 Standalone tools

Cirrato Configuration Manager, new interactive tool in which database connections, ticket server, MMC snap-in, web GUI, printing terminals, client authentication, and other Cirrato components can be configured through a single graphic user interface.

94 2.0.0R16P7

Date: 2010-07

94.1 Server

Dispatcher query rewritten: The query checking what jobs to send to what printers, has been rewritten to put considerably less load on the database.

Dynamic throttling of dispatcher query: If no reply is returned, the sleep time between queries is incremented up to 2 seconds and then stops. This reduces unnecessary load on the database.

Heartbeat time can be configured dynamically to avoid unnecessary "heartbeat failed" errors at slow network response time.

Registry value: [*CirratoSrv\heartBeatTime*] [DWORD]

Sleep time between running maintenance commands can be configured.

Registry value: [*CirratoSrv\maintThreadSleepTime*] [DWORD]

User Type API implemented. This makes it possible to use print job DLLs in Cirrato.

Registry value: [*CirratoSrv\ClientAuthentication\useUserType*] [DWORD]

Handover types implemented; the client can now send handover preferences to the server.

Registry value: [*CirratoSrv\useHandoverType*] [DWORD]

For increased performance, the monitor dispatcher query has been moved into a stored procedure.

In monitoring, database threads are now started in a database pool from which database connections are fetched at queries.

Custom OIDs added for monitoring toner levels in colour printers through Cirrato Monitor.

Cirrato Monitor now supports multi-threaded monitoring.

Registry values: [*CirratoSrv\monitorThreads*] [DWORD]

[*CirratoSrv\monitorConnections*] [DWORD]

[*CirratoSrv\monitorPrinters*] [DWORD]

Large Paper detection implemented.

Registry values: [*CirratoSrv\largePaperSize*] [DWORD] – set to **8** for A3 paper.

[*CirratoSrv\smallPaperSize*] [DWORD] – set to **9** for A4 paper.

Support added for area types cm², dm², m², in², and ft² in price plans.

Support added for area cost in price plans, also added in MMC.

Support added for paper formats A0, A1, and A2 in price plans.

Implemented logging of LDAP attributes on print request. Logs attributes/values from *tbl_attribute* to *tbl_attribute_log*, and sets given attribute as client billing code.

AD Active Domains now supports multiple domains (comma-separated) in plain text authentication.

Registry value: [*CirratoSrv\ClientAuthentication\ADActiveDomains*]

Improved checking of thread start, server reattempts every 10ms if no return value is sent.

User types implemented: normal usernames, Novell verified usernames, static usernames.

Registry value: [*CirratoSrv\ClientAuthentication\useUsertype*] [DWORD] – set to **1** to activate.

PayEx registration bonus added; functionality for granting users a monetary bonus if they associate their (new or existing) PayEx accounts to Cirrato.

Possibility to postpone (add time to) a job when printer connection is timed out or refused.

Registry values:

[*CirratoSrv\ticketTimeMoveForward*] [DWORD] – add at connection timeout

[*CirratoSrv\ticketTimeMoveForwardCR*] [DWORD] – add at connection refused

[*CirratoSrv\ticketTimeMoveForwardPurge*] [DWORD] – activate to delete jobs remaining when queue TTL expires.

Error messaging on broken printer expanded: User can receive balloon tips when printer returns connection refused or connection timeout.

Registry value: [*CirratoSrv\CirratoSession\Messages\onBrokenPrinter*] [DWORD]

OpenLDAP/Novell support added for PayEx registration.

Safeguard added to fix error where adding a rule group in a region caused an infinite loop. The safeguard will allow max 256 rules on one queue, region, or printer.

Added function to reset a queue when its status is PRINTING but the printer ID is not set in any ticket. This situation would previously make queues hang.

Erroneous SQL query corrected, caused print jobs to be deleted as "heartbeat failed" under certain circumstances.

GetAbsoluteRegionPath modified. The fix prevents unnecessary database usage when loading printer lists, which increases server performance.

ProductType corrected, it had an error in 2.0.16 clients that made it impossible to install printers from old clients.

PayEx registration fixed so that externalIDs with incomplete or invalid registration can be deleted.

Orphan rows in *tbl_cirrato_priceplan_row* deleted when papers are listed. This removes leftover rows previously visible when *Cancel* was pressed in the MMC price plan dialog.

Fixed error where the server would flag DISPATCHER status instead of PRINTING when a print job had been started.

Fixed error where MultiDomain authentication did not work in plain text authentication from clients.

Fixed error in DPT-Cirrato migration, where drivers were not deployed with the correct installation type.

Fixed error where booklet print jobs returned incorrect duplex information for price plans.

Fixed error that caused erroneous pricing for A3 printouts on Konica Minolta machines.

Fixed error where overcharge transactions could be charged twice, from users' PayEx accounts as well as their internal wallets.

Fixed error in PayEx registration where the custom user database did not write correct usernames to the database.

94.2 Database

Database schema rewritten to use *uniqueidentifier* wherever possible.

Primary keys and foreign keys added in the database schema.

Database code has been cleaned of unnecessary *select top 1* statements, resulting in fewer database queries and reduced load on the database server.

Dirty reads implemented: Database reads made as "dirty reads" (with *nolock*) when possible, reducing the risk of database lockups.

Various server changes regarding how the database modifies data types (for example, handling of NULL values).

94.3 Web GUI

Max Balance by Rule attribute added. It sets a limit to the balance size users can receive by scheduled quota rules.

Web GUI job lists: The columns *Pages* and *Color* (yes/no) replaced with columns *PagesBW* and *PagesColor*.

Fixed error where end users would get no access to *MyEvents.aspx*.

95 2.0.0R16P6

Date: 2010-02

95.1 Server

Plain text authentication added.

Mac OS X compatibility added.

Cirrato can differentiate between Windows 2008 R2 and Windows 7.

Changes to the way client billing works.

Major and minor errors in the handover point logic.

96 2.0.0R16P4

Date: 2009-08

96.1 Server

Printing service

Fixed issue with deleted migration plans being active in the system.

Fixed issue where users in “multi-AD” setups could log on without supplying correct credentials.

Fixed issue with incorrect debit amounts was stored in the database (when copying).

Fixed issue with copy job ticket id's not being stored in the database.

Fixed issue that could cause “Simple” follow print jobs to be printed in incorrect order.

Fixed issue which could cause tickets to not be deleted in certain situations.

Fixed issue with no capture being performed when using internal quota (Wallet).

Fixed issue which could cause incorrect price calculations for color printouts.

Fixed issue which could cause the server to “capture” all “Internal wallet” and Payex credits if authorization failed.

Fixed issue with printer queues not being shown with correct region structure after being dragged and dropped.

Fixed issue which could cause server/client communication to fail when using non standard client port.

Fixed issue where Linux and Mac client sessions could not be created if a userid larger than SQL smallint (32767) where being used.

Fixed misspelled registry setting (kerbersserverFQDN) which caused Kerberos functionality to not function properly.

Fixed issue with “New installation” SQL script missing statements. Affected releases 2.0.0R12 – 2.0.0R16P3.

Fixed issue that caused the server to not start if dbConnectionString was used and nothing was entered for dbDSN.

Added logging (windows event log) of failed attempts to connect to a LDAP server.

Added command line option to test shortids (-t -s <shortid>).

Added “follow print” multi AD support.

Added logging of user “Distinguished name” for all tickets.

Added functionality to set VAT per price plan (was previously set globally).

Added functionality to check user balance in ”Merchant currency” instead of “client currency”.

Added functionality to configure global default TTL.

Added functionality to configure how long the automatic card registration code that is used to associate a card to a user should be valid.

Added functionality to run scheduled SQL tasks without “SQL Server agent”.

Added logging (windows event log) of failed attempts to start the printing service caused by the server port already being in use.

Added separate server listener ports for MMC snap-in and “Easy follow print”.

Added functionality to use only relevant bits, reported by the reader, when performing card lookups.

Added functionality to check and log (to the Windows event log) windows port reservation on service startup.

Added possibility to handle anonymous LPR print jobs.

Added functionality to handle anonymous IPP jobs.

Added logging of group membership of users to ticket statistics.

Enhanced database/server communication security.

Added possibility to set a minimum amount that the user must have in order to print, scan, or make copies.

Added possibility to store user distinguishedName LDAP attribute for each ticket.

Added functionality that monitors reports and tries to resolve lockups in HID Follow print setups.

Monitoring service

Fixed issue with the service not restarting after losing contact with the database.

Fixed issue that could cause monitoring of printers to stop working.

MMC Snap-in

Fixed issue with "Counter programs" drop-down list not having "None" as an alternative.

Fixed issue with MMC sometimes crashing when creating a new queue.

Fixed issue with "Invisible" check box on Printer properties dialog not working properly.

Fixed issue with drivers set to "Deploy" but not "Install" being listed in the "Queue properties" dialog.

Fixed issue which could cause driver deployments to disappear when setting a "deployed" driver to "Install".

Fixed issue with "Followprint Properties" dialog not displaying model etc.

Fixed issue with "FP-Box IP" field not being visible in "Printer properties" dialog.

Fixed issue with "Printer Mail Message" field not being visible "Printer properties" dialog.

Fixed issue with "Admin comment" field ("Printer properties" dialog) not accepting empty string.

Added functionality to manage price plans and rule sets.

Added possibility to apply rule sets to regions.

Added warning message when trying to create more printers than the license allows.

Added warning message when trying to create a printer with a name that already exist.

Added warning message when trying to create a printer when the license has expired.

Added functionality to remove leading and trailing white spaces from strings entered in "Printer Name", "Queue Name", IP and "LPR Port" fields.

Enhanced appearance of GUI.

The "Create inventory report" dialog now only requires a value in the "Report Name" field.

96.2 Web

Fixed issue where it was possible to move print jobs to the queue they were already in.

Fixed issue with the "Monitoring page" resetting search filters on automatic update.

Fixed issue with incorrect error message being displayed when submitting an incorrect external id.

Fixed issue with "About" page not being displayed correctly.

Fixed issue with options menu appearing for already printed jobs.

Fixed issue with the "Model" column on the "Queue manager\printers" tab displaying printer models instead of queue models.

Fixed issue with CSV files (Statistics page) not being formatted correctly.

Fixed issue where only the jobs visible on a particular page were selected when checking the "Select all" check box.

Fixed issue where SNMP-status "Door-open" was displayed as "Paper-jam" and vice-versa.

Added functionality to prevent execution of SQL scripts if the SQL "Compatibility level" is lower than 90 (SQL server 2005).

Added "Status" column to the "Queue manager\Printers" tab.

Added functionality to allow administrators to delete any print job.

Added "No printers found" message that is displayed when a printer search on the "Queue Manager\ Printers" tab does not return any printers.

Added "Reset filter" button to search pane.

Added CSS support for the "Queueinstall" page.

Self-service login pages now says "Self-service".

Added functionality to remove trailing white space characters on the login page.

Added functionality to generate reports with MS-SQL reporting services.

Added possibility to specify the location where PPD-files are stored. Used for Linux and Mac clients.

97 2.0.0R16P3

Date: 2009-04

97.1 Server

Printing service

Fixed issue where follow print jobs could be released to paused or stopped printers.

Fixed issue with released print jobs appearing in “Job list” on MFP panels.

Fixed issue with “Offline reason” message not being displayed when a user prints to a paused queue.

Fixed issue with webgui messages sent to clients not working properly when “handover points” were used.

Fixed issue where the server, in certain situations, would not instruct the client to delete tickets.

Fixed issue where the paper size part of the job name was always A4 when copying.

Fixed issue that could cause “Heartbeats” to not get recorded in the database.

Fixed issue which could cause printers to be permanently flagged with an error when ticketTimeMoveforward was set.

Fixed issue where long document names and/or queue names would not fit inside the Cirratotray application balloon tip. The server will now truncate long names.

Added logging of system deleted print jobs.

Added logging of “Released” Follow print jobs as a specific event.

Added functionality to set maximum number of pages that can be recorded when copying.

MMC Snap-in

Fixed issue where several driver deployments, for the same OS and driver version combination, could have “Installation” status set to “Yes”.

Fixed issue where it was possible to delete drivers with “Deployment” status set to “Yes”

The “Add deployment” dialog now has “Install method” set to “Quiet” and the “Install” check box checked by default.

97.2 Web

Fixed issue with "Self service" page displaying other users print jobs.

Added "Handover Point" and "Originating IP" information to "Print Job Information Page".

Added functionality to display status for handover points and the Cirrato "Monitoring service" on the "Monitoring" page.

Added functionality to send users directly to the "Self service" page.

Added functionality to allow users to take ownership of print jobs.

Added functionality to allow administrators to change ownership of print jobs.

98 2.0.0R16P2

Date: 2009-04

98.1 Server

Monitoring Service

Fixed issue with “Monitoring service” terminating when performing SNMP queries on a printer with an incorrectly formatted IP-address or hostname.

Added “Help” command. Use `dptmon -h, /h or /?` to display available command line options.

MMC Snap-in

Fixed issue with MMC-snap in sometimes crashing when uploading a new driver.

Fixed issue with truncated printer and queue names.

Fixed minor graphical issue in the “Deploy driver” dialog.

Fixed issue with “FP Box IP ”data not being used when creating a new printer.

Fixed issue with “FP Box IP” text box not accepting empty string as argument.

Fixed issue with MMC crashing when clicking the “Cancel” button or pressing the “ESC” key on the login screen.

Login screen now displays current version.

Added login failure error messages.

Added confirmation dialog when deleting configurations that are currently in use.

Added possibility to set queues as invisible. Queues set to invisible will not appear in “CirratoSearch” or on the “Queueinstall” page.

Added “Printer mail message” field to “Printer properties” dialog.

Added error message that is displayed when trying to use the context menu item ”Upload driver” without having CirratoPak.exe in the system “Path”.

Added “Counter-programs” drop-down list to “Printer properties” dialog.

Updated layout of “Printer properties” and “Queue properties” dialogs.

Minor changes to “Region” node context menu.

98.2 Web

Fixed issue with "hidden" queues being displayed on the "Queueinstall" page.

Fixed issue with "Client billing" and Quota tabs always being displayed in demo mode.

Fixed issue with "Force printer status update" button on monitoring tab not working.

99 2.0.0R16

Date: 2009-04

99.1 Changelog R16

99.1.1 Server (Printing service)

Fixed issue with print jobs sometimes not being deleted on the client after being printed.

Fixed issue where users could debit print jobs to an incorrect client billing code.

Fixed issue where users could copy when their “Internal quota” was exactly '0'.

Added functionality to receive raw card numbers on fimport.

Added “Round-robin” load balancing for “Handover points”.

Added functionality to perform SNMP scans before and after printouts.

Added functionality to parse PS print jobs before printing.

Added functionality to display balloon messages to the end user when printer configurations get updated etc.

Enhanced naming convention for local printers that get migrated. Local printers that get migrated are now named: WSNAME_localqueueuname.

99.1.2 Web

Added "Self service" page.

Added functionality to differentiate web GUI access rights based on AD group membership.

Added functionality to display a printer's “Admin comment” on the Queue managers page. (Applies to members of Admin and Helpdesk groups)

99.2 Release notes R16

Added features

New license handling, Cirrato will now be locked down 30 days after a demo license has expired.

Balloon tip messages added to the Cirrato client (Error notifications etc. displayed to the end user)

Help option (/?) implemented in dptsrv.exe.

Admin comment now shows in the web interface.

Locally migrated printers now starts with WS(name of workstation)\nameofprinter.

Cirrato now accepts raw 'card' numbers from fimport.

Cirrato follow print now works with multi AD-domain sites.

Differentiated access levels implemented in Web GUI

Many new features added to Cirrato Web GUI

- Support page where helpdesk can see user print jobs end events in detail
- Self-service - Separate Web GUI login with simple GUI for end users that displays detailed information of the users' print jobs and events.

Stopped queues send a message and deletes the print jobs.

New Postscript parser added to the client.

Pre/postinstall functionality added to the Cirrato client.

CirratoSearch now has automatic AD OU region matching.

CirratoSearch status field messages.

CirratoSearch can now be minimized.

Redundancy mode has been modified to add more end user messages.

Load balancing added on handover point clients.

Print job logging now supported for non Cirrato printers

Bugfixes

Cirrato Base System:

Large number of connections in a short time period caused dropped client/server actions.

Printer drivers where sent to client during queue installation even if they were cached.

CirratoPak now displays an error message if IP number/port cannot be read from registry.

Cirrato client icon no longer disappears if explorer is restarted.

Only "ready for printout" jobs are now shown correctly in the vdms module.

CirratoSearch graphical redraw problems fixed

Cirrato Payment Solution System:

Some print devices have been found doing 2 'clicks' for a 1-page duplex job; a workaround has been completed.

Other non Cirrato Related Bugs:

MPC2800 PS printer driver reporting 0 pages when spooling was complete; the Cirrato client now checks the number of pages before spooling is complete.

100 2.0.0R15

Date: 2009-02

100.1 Changelog R15

100.1.1 Server (Printing service)

Fixed issue that could prevent configurations from being applied to printers using alternate drivers.

Added functionality to migrate DPT printers once per client workstation.

Added functionality to migrate local printers on first printout.

Added functionality to support MFP login in Multi Domain setups.

Added functionality to configure VDMS timestamp format.

Added functionality to enable behavior (capture or cancel) in case of heartbeat failure during printout.

100.1.2 Web

Added functionality to distinguish "Follow print" jobs.

Added functionality to move print jobs between queues.

100.2 Release notes R15

Added features

64-bit Cirrato client added

Auto-migration of local printers added

Time Estimate functionality added in the redundancy mode (settings) to make sure jobs already in the system will be printed.

Better migration support for DPT

Server can now send full regional structure in search results to Cirrato Search.

Bugfixes

Cirrato Base System:

Web GUI did not show follow me print jobs correctly

No longer possible to upload read-only printer drivers to the system.

Support for additional AD domains in the VDMS system.

Client billing support for 'trash' account

Fixed error with configurations file not selectable for alternate driver handling.

Optional date settings now available in the VDMS system.

Unique spool files to prevent errors while printing (lost print jobs)

Cirrato Payment Solution System:

IPP printouts were not charged correctly.

Heartbeat failure caused incomplete transactions.

Cirrato changelogs older than 2009 are considered outside the scope of this document.