

Device Statistics

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Revision History

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CONTENTS

Revision History i

1. Understanding Statistics Events 1
   - 1.1 Statistic Identifiers 2
   - 1.2 System-wide Events 2
   - 1.3 Analog Sensor Events 2
   - 1.4 Drum Vacuum Events 3
   - 1.5 Loading Events 3
   - 1.6 Head-specific Events 3
   - 1.7 Safety Loop Events 4
   - 1.8 Workstation Job Events 4
   - 1.9 Plotting Events 10
   - 1.10 Device Actuator Events 11
   - 1.11 3244 Autoloader Events 14
   - 1.12 I/O Events 14
   - 1.13 Throughput Monitoring Events 14

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1. UNDERSTANDING STATISTICS EVENTS

Machine statistics provide information that helps service representatives help customers. This document explains what each statistic event represents.

There is a wide variety of information about the firmware and the workstation software that can be tracked and reported. When the firmware generates events that need to be reported, it sends that information to the workstation software.

The workstation software stores all events that it receives (including the statistics that it generates itself) in an event log. The Statistic Event Manager (SEM) writes data to log files and generates one event log per day. At the end of each day, the log file is copied to an archive location.

A service representative can then use a service tool such as Statilyzer to extract relevant statistics events from the daily event logs to generate various types of reports. For example, events such as `Frame temperature at 7-Jun-02 12:42:00 is 27.5 degrees C` can be used to create statistics such as `Average frame temperature was 26.4 degrees C over the last month, minimum was 21.9 degrees C and maximum was 35.2 degrees C` or `Frame temperature was above 30.0 degrees C between 3-Jun-02 2:43:00 and 4-Jun-02 09:37:00`.

Each statistic event in the event log has the following elements:

- An event ID (represented by a number)
- A time stamp that includes a date (in the format **ddmmyyyy**) and time (in the format **hh:mm:ss.ms**, representing hour:minute:second.millisecond)
- Data about the event, which varies according to the nature of the statistic event. For example, an “operator prompt” event will have the error ID and the error message. An “image parameter” event will have data about image parameters

Depending on the nature of the statistics event, they are reported in various ways:

Counted events	How many times a specific event (for example, flyoff) occurred.
Timed events	The amount of time that the machine was in a certain state (for example, the amount of time the laser was on).
Events with a value	The event has some kind of value associated with it (for example, the temperature of the laser diode).
Analog sensor readings	The event includes an average, minimum, and maximum sensor value over a defined polling period.
String value	A string of data that provides information about the event.

The following tables list all events that are reported for statistical purposes. Events are organized by their Event ID number.

1.1 Statistic Identifiers

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
0	Undefined			
1	User defined		misc.	A data string. Miscellaneous type used for passing events, version, and so on.

1.2 System-wide Events

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
10	Machine powered on	Every occurrence	counted	
11	Reset by operator	Every occurrence	counted	
12	Reset internally	Every occurrence	counted	
13	Machine on	Every 5 minutes	timed	
14	Laser on	Every 10 seconds while laser is on	timed	
15	Door open	Every 10 seconds while door is open	timed	

1.3 Analog Sensor Events

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
20	Ball screw temperature	Every 5 minutes	analog sensor	
21	Frame temperature	Every 5 minutes	analog sensor	
22	Carriage amplifier temperature	Every 5 minutes	analog sensor	
23	Main board temperature	Every 5 minutes	analog sensor	
24	System air pressure	Every image	analog sensor	
25	Laser diode current	Every 5 minutes	value	
26	Laser diode temperature	Every 5 minutes	value	

1.4 Drum Vacuum Events

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
40	Drum vacuum level, plate grab	Every plate load	value	
41	Drum vacuum level, plate release	Every plate unload	value	
42	Drum vacuum level, receiver grab	Every receiver load	value	
43	Drum vacuum level, receiver release	Every receiver unload	value	
44	Drum vacuum level, donor grab	Every donor load	value	
45	Drum vacuum level, donor release	Every donor unload	value	

1.5 Loading Events

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
50	Bay opened from workstation	Every time bay opened	value	
51	Bay loaded from workstation	Every time bay loaded	value	
52	Plate picked from bay	Every plate picked	value	
53	Plate picked of this media	Every plate picked	value	

1.6 Head-specific Events

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
60	Number of focus errors during a workstation job	Every image	value	
61	Number of times laser was over-temperature during a workstation job	Every image	value	
62	Unexpected head reset	Every occurrence	counted	

1.7 Safety Loop Events

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
70	Total time key switch activated	Every 30 seconds while key switch is activated	timed	
71	Key switch on	not supported		
72	Key switch off			

1.8 Workstation Job Events

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
100 and 101	Image Sent and Image Sent Parameters	Every image	counted	`command`, a string that contains the name of the firmware command issued. Either firmware command may include any of the following, with a value represented by a number: `Invert, Mirror, Exposure, ResUnits, MainScanOffset, MainScanScale, MainScanLength, SubScanOffset, SubScanScale, SubScanLength, SeriesType, SeriesStart, SeriesStep, SeriesNumStrips, StrokeShift, RipByteOrder, HiResMode, TestPlot, MediaType, MainScanRes, SubScanRes, TotalSwaths, ExtraScanline, CRCEnabled, DrumDiameter, PixelsPerStroke, ColorbarID, ColorbarAttr, Thickness, SeriesStripWidth, ImageType, ImageWidth, TintingPlot, TintingLevel, SubScanScanlines, CRCLength, RotatePlate, PunchPlate, TrayNum, MainScanSize, SubScanSize, NoRetrace, StrokeCal, SubScanOffset_UM, MainScanOffset_UM, NarrowMode, LoadMethod, BayNumber, Seamless, MainScanMediaSize_UM, SubScanMediaSize_UM, CylinderID, DataSource, EdgeDetectMode, ProofID, MediaStacks, ImageSize, Portrait, PlotEnable, UnloadMethod.` Any other parameters are not known, but will be reported:`ParamTypeOx%X="d"`, where `%X` is the number value of the paramtype sent in the image start command.

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
102	Image Sent Media	Every image	counted	imageID, a number that allows linking with other events (image start, errors associated with the image)
				mName, a string that contains the name of the media
				mType, a string that describes the type of media, for example, Imation® or Kodak® IR
				mSubst, a string that contains the media substrate and which must be one of the following: Film AluminumPlate PolyesterPlate FlexographyPlate ProofReceiver ProofDonor BluelineProof GravureCylinder Unknown
				mManuf, a string that contains the name of the media manufacturer (for example, Kodak Polychrome Graphics, Imation)
				mProdID, a number that represents the product id for the media type, as stored in the Print Console registry
				mColor, a string that reports the color, as determined from the file name or proof color table
				mDim[X/Y/Z], numbers and strings that record the length, width, or thickness of the media as "xxx yyyy", where xxx is the value in units yyyy, whichever units are being used in the print setup (usually inches or mm)
				dimXP, dimYP, and dimZM, numbers that are used for media inventory tracking, which requires the length and width to be in points and the thickness to be in microns, so there is no unit reported for these values.
103	Workstation image successfully processed	Every image completed	counted	imageID, a number
104	Workstation image failed	Every image failed	counted	imageID, a number
				state, a string that will be one of the following: failed in RIP failed in device PrintConsole internal error

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
105	Workstation image cancelled	Every image cancelled	counted	imageID, a number
				state, a string that will read cancelled by user
106	Suspend condition occurred	Every suspend	value	promptID, a number that matches the suspend raise with the suspend clear
				errorid, a number returned by the firmware after a QueryPromptError command
				level, a number indicating severity (1 = ERROR, 2 = warning, 3 = information, 4 = trace)
				errormsg, a string containing the message sent by the firmware, with the parameters added to the string and any quotes replaced with the xml quote character
				paramlist, optional; any parameters sent by firmware with the error will be translated, in order, to param1="___" param2="___" (with the quoted values coming from the firmware)
				imageID, a number retrieved from the prompt information
				jobID, a number retrieved from the prompt information
				suspendType, a number indicating the type of suspend, from the SUSPEND_COMMAND_TYPE enum:enFlushSuspend 0enImageSuspend 1enBeginProofSuspend 2enEndProofSuspend 3enBaySuspend 4enManualCarrierLoadSuspend 5enManualCarrierUnloadSuspend 6enBayLoadSuspend 7enOpenBaySuspend 8enShutdownRecorderSuspend 9enConfigPickerSuspend 10enEnableBaySuspend 11enFlushPlateSuspend 12enNoSuspend 13ENREJECTSUSPEND 14

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
107	Suspend condition cleared	Every cleared suspend	value	promptID, a number
				buttoncode, a number; the buttoncode value is mapped to the method string; expected values are: abort, clear, resume, none, Cancel, Eject, Leave On, Media Removed, Release, Resume. If the buttoncode value can not be mapped, the method will be reported as unknown.
				method, a string
108	Time suspended	Every suspend. Timer is started when suspend occurs and is stopped and reported when cleared.	timed	totalseconds, a number representing the number of seconds the suspend lasted.
109	Flush command issued	Every flush command sent.	count	no value string
110	Flush command completed	Every flush command sent.	count	no value string
111	Flush Resume command	Every flush command sent.	count	no value string
112	Flush Clear command	Every flush command sent.	count	no value string
113	Unsolicited error	Every unsolicited error	value	errorid, a number returned by the firmware after a QueryPromptError command
				level, a number indicating severity (1 = ERROR, 2 = warning, 3 = information, 4 = trace)
				errormsg, a string containing the message sent by the firmware, with the parameters added to the string and any quotes replaced with the xml quote character
				paramlist, optional; any parameters sent by firmware with the error will be translated, in order, to param1="___" param2="___" (with the quoted values coming from the firmware)

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
				`context`, an optional string. Context gives the PrintConsole context that led to the firmware error. Possible values are: `FlushStart, FlushEnd, QueryRegistration, QueryGeneralStatus, QueryHeadStatus, QuerySystemStatus, QueryCarriageStatus, QueryDrumStatus, QueryConfiguration, ApplicationProtocolVersion, GetProperty ProtocolTimeout, GetStatisticDataTypeDescription, QueryGeometry, GetProperty Head Serial Number, QueryHead, QueryResolution, QueryMedia, QueryMedia2, Reset, WorkstationShutdown, QueryImageStatus, QueryFlushStatus, QueryRejectStatus, QueryBayStatus, QueryPromptStatus, QueryPlateProcessorStatus, QueryPromptError, QueryImageError, QueryStatusError, QueryOptions, QueryProof, ImageStart, ImageParameters, ImageCancel, ImageEnd, ImageResume, ImageClear, FlushResume, FlushClear, BayClear, RejectResume, RejectClear, BayConfigurationSet, BayConfigurationGet, BayOpenStart, BayOpenEnd, QueryPromptInformation, PromptButtonPress, UnlockDoors, QueryMultiple, QueryStacks, GroupStart, GroupEnd, WriteMediaBlockData, SetSeamGeometry.`
				`imageID`, an optional number that will be logged only if the error is an imaging error

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
114	Print Console information			PrintConsoleVersion, a number in the format d.d.d.d
115	Device information			deviceType, a string
				deviceSN, a string that contains the device serial number
				hardwareModel, a string that includes either MPE or MCE
				hwType, a number that represents one of the following: 0-undefined 1-MPE 2-MCE 3-DNE 4-ICE
				hardwareVersion, a number in the format d.d.d
				fwCodeType, a number
				fwModelType, a number that comes from the enum RIF_FWMODELTYPE_TYPEDEF in RifEnums.h, and is mapped to deviceType
				firmwareVersion, a number in the format d.d.d
	Device Head information			headType, a number that comes from the following enum: RIF_HEADTYPE_UNKNOWN=0x00 RIF_HEADTYPE_HRX=0x01 RIF_HEADTYPE_THERMAL_I=0x02 RIF_HEADTYPE_THERMAL_II=0x03 Value 4 is reserved for the Hotspot head... RIF_HEADTYPE_GREEN=0x05
				headHWVersion, a number in the format d.d
				headSN, a string that contains the head serial number

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
116	Device geometry			`LEMargin` is the leading edge margin and `TEMargin` is the trailing edge margin. `MaxMainScanDataLength`="d" `LEMargin`="%3.3f" `TEMargin`="%3.3f" `MaxMainScanPlateSize`="%3.3f" `MaxSubScanPlateSize`="%3.3f" `MinMainScanPlateSize`="%3.3f" `MinSubScanPlateSize`="%3.3f" `units`=Inches, mms, or microns
117	Communication lost between Print Console and firmware			`errorid`, a number returned by the firmware after a QueryPromptError command
				`level`, a number indicating severity (`1` = ERROR, `2` = warning, `3` = information, `4` = trace)
				`errormsg`, a string containing the message sent by the firmware, with the parameters added to the string and any quotes replaced with the xml quote character
				`paramlist`, optional; any parameters sent by firmware with the error will be translated, in order, to param1="___" param2="___" (with the quoted values coming from the firmware)
118	Media loaded			`imageID`, a number
				`mReceiver`, a string. `mReceiver` is `y` if the media loaded was the receiver; otherwise it is `n`.
119	Operator issued reset through Print Console			No value string

1.9 Plotting Events

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
200	Time required for laser setup	Every plot	timed	
201	Time required for edge detection	Every plot	timed	
202	Time required for focus learn	Every plot	timed	
203	Time required for data transfer to start	Every plot	timed	

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
204	Time required for exposure	Every plot	timed	
205	Time required for plot shutdown	Every plot	timed	
206	Number of retraces during plot	Every image	value	
207	Number of PLL errors or warnings during plot	Every image	value	
208	Flyoff	Every occurrence	counted	
209	False edge detected	Every occurrence	counted	
210	Failed edge detected	Every occurrence	counted	
211	Double edge detected	Every occurrence	counted	
212	Time media load			
213	Time media unload			

1.10 Device Actuator Events

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
300	LEC off	When timing performed	timed	
301	LEC on	When timing performed	timed	
302	TEC off	When timing performed	timed	
303	TEC on	When timing performed	timed	
304	TEC lock	When timing performed	timed	
305	TEC unlock	When timing performed	timed	
306	Roller off	When timing performed	timed	
307	Roller on	When timing performed	timed	
308	Picker up	When timing performed	timed	
309	Picker down	When timing performed	timed	

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
310	Picker in	When timing performed	timed	
311	Picker out	When timing performed	timed	
312	Picker wrist in	When timing performed	timed	
313	Picker wrist out	When timing performed	timed	
314	Picker vacuum off	When timing performed	timed	
315	Picker vacuum on	When timing performed	timed	
316	Picker separator in	When timing performed	timed	
317	Picker separator out	When timing performed	timed	
318	Ramp in/down	When timing performed	timed	
319	Ramp out/up	When timing performed	timed	
320	Table up	When timing performed	timed	
321	Table down	When timing performed	timed	
322	Table cups up	When timing performed	timed	
323	Table cups down	When timing performed	timed	
324	Table vacuum off	When timing performed	timed	
325	Table vacuum on	When timing performed	timed	
326	Table rotate	When timing performed	timed	
327	Table unrotate	When timing performed	timed	
328	Cleaning roller to drum	When timing performed	timed	
329	Cleaning roller to neutral	When timing performed	timed	
330	Cleaning roller to vacuum roller	When timing performed	timed	
331	Vacuum roller to drum	When timing performed	timed	
332	Vacuum roller to cassette	When timing performed	timed	
333	Vacuum roller	When timing	timed	

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
	to neutral from up	performed		
334	Vacuum roller to neutral from down	When timing performed	timed	
335	Vacuum roller 4up vacuum off	When timing performed	timed	
336	Vacuum roller 4up vacuum on	When timing performed	timed	
337	Vacuum roller 8up vacuum off	When timing performed	timed	
338	Vacuum roller 8up vacuum on	When timing performed	timed	
339	Vacuum roller 4up vacuum grab	When timing performed	timed	
340	Vacuum roller 8up vacuum grab	When timing performed	timed	
341	Tape roller up	When timing performed	timed	
342	Tape roller down	When timing performed	timed	
343	Drum vacuum off	When timing performed	timed	
344	Drum vacuum on	When timing performed	timed	
345	Entry/Exit door open	When timing performed	timed	
346	Entry/Exit door close	When timing performed	timed	
347	Backbone forward	When timing performed	timed	
348	Backbone center forward	When timing performed	timed	
349	Backbone center back	When timing performed	timed	
350	Backbone back	When timing performed	timed	
351	Balancer home extend	When timing performed	timed	
352	Balancer home retract	When timing performed	timed	
353	Balancer away extend	When timing performed	timed	

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
354	Balancer away retract	When timing performed	timed	
355	Autoloader ramp in			
356	Autoloader ramp out			

1.11 3244 Autoloader Events

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
500	Wrist timed out moving in	Every occurrence	counted	
501	Double-pick	Every occurrence	counted	
502	Plate fell off cups while wrist out	Every occurrence	counted	
503	Wrist cylinder leak	Every occurrence	counted	
504	Plates detected sticking together	Every occurrence	counted	

1.12 I/O Events

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
600	IO bit/group bypassed	Every occurrence	string value	
601	IO bit/group bypass cleared	Every occurrence	string value	

1.13 Throughput Monitoring Events

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
700	Time from unload start to load end		timed	The time between these two events: • The start of unloading from the engine • The finish of loading onto the engine
701	Time from load end to load end		timed	The time between the finish of loading to the engine on two successive jobs
702	Time from load start to unload end		timed	Applies only to manual jobs. The time between these two events: • The start of loading onto the engine

Event ID	Description of Event	When Reported	Type	Data Associated With the Event
				• The finish of unloading from the engine
703	Time from engine clear to load start		timed	The time between these two events: • The engine is cleared and ready to accept the next plate • The start of the next load onto the engine Ideally this time should be zero.
704	Time from load end to unload start		timed	The time between these two events: • The finish of loading onto the engine, at which point plotting takes over • The start of unloading from the engine, at which point plotting has completed
705	Time from unload table end to unload engine start		timed	The time between these two events: • The finish of unloading the table • The start of the next engine unloading
706	Time from unload table end to unload table end		timed	The time between finishing unloading the table on two successive jobs. **Note:** This is supposed to be the same as the time between two successive “End of Active Job” messages in the Print Console History log.