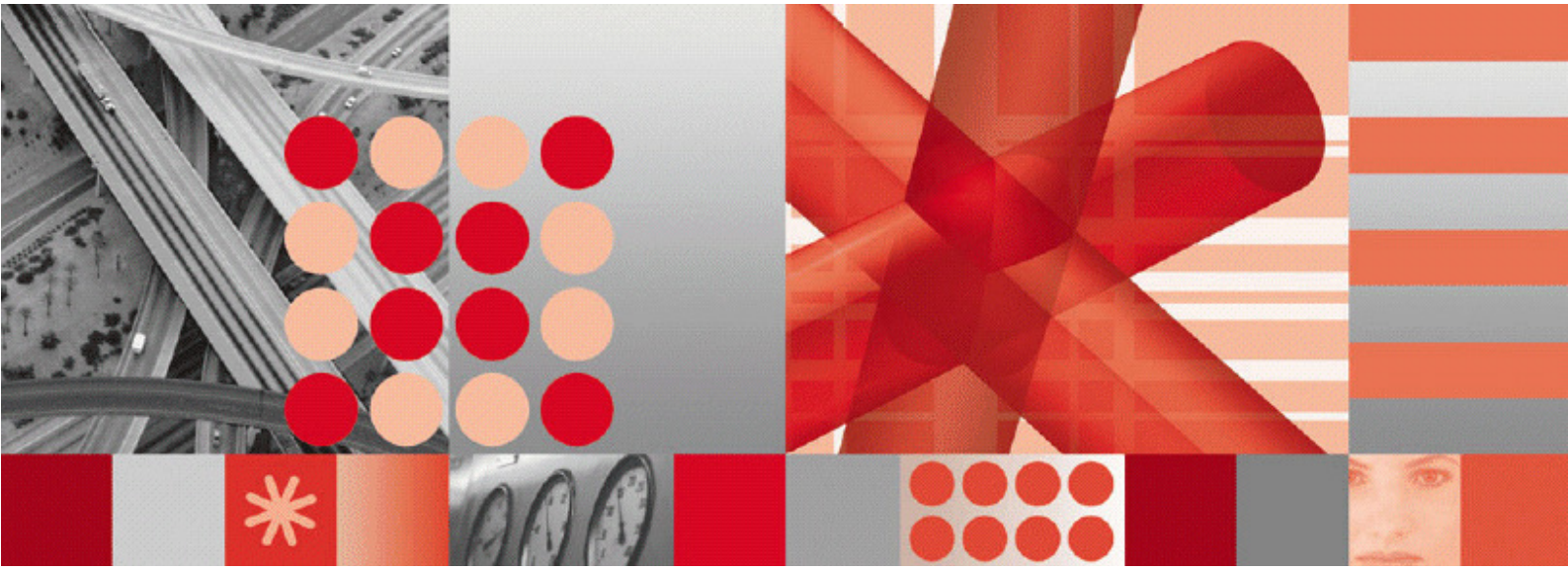
Tivoli Netcool® Performance Manager for Wireless Gateways - Perl

Version 3.4



Gateway Framework Distribution Note

TIVOLI® NETCOOL® PERFORMANCE MANAGER FOR WIRELESS GATEWAYS - PERL GATEWAY FRAMEWORK DISTRIBUTION NOTE

Note: Before using this information and the product it supports, read the information in Notices on page 12.

This edition applies to Version 4.1 of IBM® Tivoli® Netcool® Performance Manager for Wireless and to all subsequent releases and modifications until otherwise indicated in new editions.

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Table of Contents

1 About this Documentation 1
1.1 Audience 1
1.2 Required Skills and Knowledge 1
2 Associated Documents 2
2.1 Referenced Documents 2
2.2 Other Related Documents 2
3 Introduction 3
3.1 Operating System & Architecture Support 3
3.2 Perl Version 3
4 Release History 4
4.1 Release 3.4.1 4
4.2 Release 3.4.0 4
4.3 Release 3.3.1 4
4.4 Release 3.3.0 5
4.5 Release 3.2.0 5
4.6 Release 3.1.1 7
4.7 Release 3.1.0 8
4.8 Release 3.0.1 9
4.9 Release 3.0.0 10
4.10 Release 2.4.0 10
4.11 Release 2.3.0 11
Appendix A Notices and Trademarks 12

1 About this Documentation

1.1 Audience

The target audience of this document is IBM Performance Manager for Wireless customers. They should be familiar with telecommunication and IT principles and should also have a good understanding of Solaris.

IMPORTANT: Before attempting an installation of Performance Manager for Wireless you are strongly advised to read the release notes and any readme files distributed with your Performance Manager for Wireless software. Readme files and release notes may contain information specific to your installation not contained in this guide. Failure to consult readme files and release notes may result in a corrupt, incomplete or failed installation.

Note: Performance Manager for Wireless Administrators should not, without prior consultation and agreement from IBM, make any changes to the Index Organized tables or database schema. Changes to the Index Organized tables or database schema may result in corruption of data and failure of the Performance Manager for Wireless System. This applies to all releases of Performance Manager for Wireless using all versions of interfaces.

1.2 Required Skills and Knowledge

This guide assumes you are familiar with the following:

- General IT Principles
- Sun Solaris Operating System
- Oracle Database
- Windows operating systems
- Graphical User Interfaces
- Network Operator's OSS and BSS systems architecture

This guide also assumes that you are familiar with your company’s network and with procedures for configuring, monitoring, and solving problems on your network.

2 Associated Documents

The following documentation accompanies this release:

2.1 Referenced Documents

Document Name	Document Description
[Gateways Install Note]	This document describes the steps required to install and run a Gateway.

2.2 Other Related Documents

Document Name	Document Description
[Gateway Framework User Guide]	Gateway Framework User Guide describing the management and configuration of the Gateway Framework.

3 Introduction

You should read this Distribution Note before proceeding to install the Gateway Configuration.

For information on the Gateway Framework, its configuration and use refer to the [Gateway Framework User Guide].

The Gateway Framework and Vendor Gateway are supplied as separate packages. As part of the Vendor Gateway installation process, it must reference a Gateway Framework installation. This separation simplifies the maintenance and version control of multiple vendor Gateway installations on a single server.

This Distribution Note provides an overview of the release history of the Gateway Configuration.

3.1 Operating System & Architecture Support

The Gateway Framework is built using the generic Gateway Perl Framework. The latest Gateway Framework release is currently supported on the following platforms:

Vendor	O/S version(s)	Architecture
HP-UX	10.2 & 11.0	PA-RISC2.0
Solaris	9 & 10	SunSparc
Tru64	5.0	DEC-ALPHA
Redhat Linux	Enterprise Server 4 & 5	Intel x86 (32-bit), and AMD Athlon (32-bit)
	Enterprise Server 5	PowerPC
IBM	AIX 5.3	PowerPC

3.2 Perl Version

Gateway Framework release 3.x and later requires Perl version 5.6.1. It is strongly advised that the appropriate perl version from the Gateways intranet is downloaded and installed for use with the Gateway Framework.

Use of other versions of perl has led to unexpected run time errors.

4 Release History

4.1 Release 3.4.1

Fix Pack release date 30 July 2008.

Listed below are the bugs fixed in this release.

Bug#	Description
59217	FTP transfer engine transfer duplicate file.
58224	Transfer Out does not transfer files that have a # in its name.
58223	Transfer Out does not find the .timestamp file if it is exists.
58193	ScpRcp.pm causes certain file not to be transferred.
56766	FTP exits early without checking all sub directories.

4.2 Release 3.4.0

Release date 30 January 2008.

Listed below are the enhancements for this release.

#	Description
1	Support for new machine architecture, Sun Solaris on Intel.
2	Specific platform Gateway extensions installation.

4.3 Release 3.3.1

Release date 1 November 2007.

Listed below are the enhancements for this release.

#	Description
1	Include modules directory for Vendor Gateways

Listed below are the bugs fixed in this release.

Bug#	Description
58193	ScpRcp.pm causes certain file not to be transferred
57841	The Expat.sl shared library links in to a file not included with the GWF with a hardcoded path
57613	ERROR: Some required CPAN modules were not found!
57503	UNPEGGER rule does not work for STARTDATE, STARTTIME, DURATION combination
56907	Bugs in PostParser.pm
56450	TIME KEY sorted in wrong order by UNPEGGER post parser rule when year changed to 2007

Note:

The VENDOR_GATEWAY environment variable must be set to include the modules directory in the path before running Gateway, e.g.:

```
VENDOR_GATEWAY=${GATEWAY_ROOT}/modules/<vendor-gateway>
```

4.4 Release 3.3.0

Release date 17 July 2007.

Listed below are the enhancements to this release.

#	Description
1	Blue wash exercise.
2	Average function added to ACCUMULATE post parser rule

Listed below are the bugs fixed in this release.

Bug#	Description
56450	TIME KEY sorted in wrong order by UNPEGGER post parser rule when year changed to 2007
57503	UNPEGGER rule did not make use of FORMAT in DATETIME_COUNTERS

4.5 Release 3.2.0

Release date April 2007.

Listed below are the updates to the user documentation for this release.

DocDefect#	Description
54786	Gateway framework 3.1 user guide (doc release 2.1) has error in PERLIZE example
55372	Gateway Framework - update FW User Guide to explain better MIN_FILES_PER_PROCESS

Listed below are the enhancements to this release.

#	Description
1	Date::Calc has been included into the Gateway Framework. Migrate the use of Date::Manip to Date::Calc module for performance enhancements in UNPEGGER and any processing within the EngineConfig.pm which requires date and time manipulation.
2	New standard Post Parser rule, **FILE_SPLIT_BY_COUNTERS**. Allows a single PIF files to split across multiple PIF based on different counter sets.

Listed below are the bugs fixed in this release.

Bug#	Description
55245	TransferConfig.pm does not transfer all the files
55464	UNPEGGER handling DEFAULT_NULL_VALUE incorrectly
55805	Transfer OUT can't read or delete files
55887	Transfer Config - If "Remote_dir" is invalid, no PID/Timestamp in log file
56070	Siemens BSS Gateway Out of Memory errors with 3.1.1 framework
56072	Gateway Framework deletes intermediate hierarchy files during parsing.
56112	Siemens BR8 - TieCache Warning Message
56114	Siemens BR8 BULK TRASNFER does not remove original file
56116	Siemens BR8: .bad files processes 2nd time round
56117	Siemens BR8: Parser Performance
56123	Siemens BR8: BULK TRANSFER cpio output in log file
56124	Siemens BR8: PRE-TRANSFER Message in LOG File

56125	Siemens BR8: Bulk Transfer doesn't list files copied in Audit File
56126	Siemens BR8 BULK TRASNFER does not remove original file
56127	Siemens BR8: BULK TRANSFER output in LOG file
56235	FTP File transfer process can miss files with directory depth set

Listed below are reverted bug fixes in this release.

Bug#	Description
40272	Parser auditing updated

Important Notes:
Below are changes to the configuration entries for the **Transfer Engine**.

Ftp module specific configuration:

LIST_SLEEP
Sets the number seconds to sleep after getting the list of files to be transferred. This is to allow the partially generated files during the directory listing to be completely produced. Default is 0. Accepts float numbers.

Timestamp file format
The timestamp file format for Ftp module now records the modification time of every file transferred. To maintain the continuity of the timestamp for the Transfer Engine, the old timestamp format must be migrated over.

The new timestamp file format:

```
$mod_time = {
  '/<remote_dir_1>' => {
    'LAST_TIME' => <last_file_mod_time>,
  },
  '/<remote_dir_2>' => {
    'LAST_TIME' => <last_file_mod_time>,
  },
};
```

Where `<remote_dir_#>` is the full path of the directories on the remote server, and `<last_file_mod_time>` is the modification time of the last file transferred in POSIX time. The time should be consistent with the time from the previous timestamp file format.

For every directory level in the remote server directory, a similar hash structure must be defined respectively.

ScpRcp module specific changes and configuration:

ENABLE_REMOTE_COMPRESSION

When set to 'True', compresses the remote files copied in or out after they have been transferred. Set to '0' to disable.

NOTE: ENABLE_LOCAL_COMPRESSION and ENABLE_REMOTE_COMPRESSION will work exclusively, where ENABLE_REMOTE_COMPRESSION will take precedence when DIRECTION 'IN', and ENABLE_LOCAL_COMPRESSION will take precedence when DIRECTION 'OUT'.

4.6 Release 3.1.1

Release date May 2006.

Listed below are the enhancements to this release.

#	Description
54551	Transfer should continue other rules in Transferconfig even if the first rule fails
54537	Gateway Transfers - all remote transactions should have retries if failures occur

Listed below are the bugs fixed in this release.

Bug#	Description
44647	Gateway Framework - rcp/scp tsfr - need to escape '#' in name for remote copy
53811	Bug in file list retrieval code when depth>0
54282	TransferEngine/FTP error : keep getting files that had been copied before
54452	Problems with timestamps and FTP Transfer causes re-transfer of old data
54878	Transfer problems: byte size differs to the original file
54525	Drip Feed for TransferEngine IN Direction infinite loop
54595	Bulk Transfer failed for a large number of files
54713	Unpegger rename saved pegged file incorrectly
54736	GWF is failing to find a file in the parser input dir

Important Notes:
Below are changes to the configuration entries for the Transfer Engine.

BULK_TRANSFER
Bulk transfer only applies to Scp Protocol. When BULK_TRANSFER is set to 'True', DELETE_ORIGINAL and NUMBER_OF_FILES_TO_PROCESS are ignored. Therefore drip feeding no longer applies for bulk transfer. And all files in destination directory will be overwritten.

OVERWRITE_FILES
This is a new entry for Ftp and Scp protocol (except bulk transfer). Target files will be overwritten when OVERWRITE_FILES is set to 'True'. It is set to '0' by default, no overwrite.

TRANSFER_MODE
This is an optional entry that only applies to Ftp protocol. TRANSFER_MODE is configured with either 'ASCII' or 'BINARY' only. The transfer mode is set to binary by default.

4.7 Release 3.1.0

Release date October 2005.

Listed below are the enhancements to this release.

#	Description
1	Integration with MPM and NPR Event and Alarm API's
2	Redhat Linux ES is now an officially supported platform for the Gateway Framework.
3	Support has been included to support the Prospect loading process
43790	Support bulk file transfer for ftp, rcp and scp.
43893	Counter sort order in LIFs should work for all rules producing LIF files. See requirement 4 for details on enhancements, which address this.
45050	Process required to cleanly stop a Gateway during the parsing run. Should execute between each key stage. (transfer, engine, post parser).
40272	Parser auditing updated
45996	PIF Handler should abandon write if duplication occurs.
47511	UNPEGGER: Support for arrays values for INPUT_FILE_DESCRIPTION. Note: this needs careful evaluation for impact it will have generally.
47143	All Post Parser rules should support an OUTPUT_DIR standard entry. The actual processing for this should be in the framework post parser rule processing code.
48620	rcp/scp should use an optional username and password if configured.
48716	Include timeout for ftp transfer. Investigate timeouts for other protocols.
48986	Ability to load files by filename date time order. Resolved in 45051.

Listed below are the bugs fixed in this release.

Bug#	Description
42717	FTP Transfer – modification time check now works correctly
43809	Colon in filename now works correctly with rcp.
44099	rcp or scp transfer now works on local nodes.
44101	Transfer on local nodes – space now removed from "find" return.
44647	rcp/scp – '#' now escaped in name for remote copy
48621	Timestamp now found using rcp and scp
48773	Drip feed now works using ftp Transfer
45181	Generic test commands now used.
36035	JOIN: Now working correctly
43479	PERLIZE: now keeps track of new PIF files.
43802	INFOINSERT: ONLY_INSERT field name was appended with multiple APPEND_STR. Now works correctly.
44279	JOIN: Correct log level now used.
44723	Batcher process in Gateway framework now creates unique filenames.
44877	UNPEGGER: First data slot missing as no PEG files available. Now fixed.
45038	UNPEGGER – UNPEG PIF files being retained by Post Parser. Now fixed.
45115	PIF_REMOVE: - Doesn't remove PIF files cleanly. Fixed
45680	UNPEGGER: Writes random value for first period. Fixed.
46767	PIF_2_OUTPUT: Now implements the OUTPUT_DIR option.
48785	JOIN: Rule description in docs updated.
48871	BATCHFILES: Batched files overwritten – same as bug 44723. Fixed.
44196	INFOINSERT: Rule isn't working with APPEND_STRING. See 43802. Fixed.
44282	Block statistics error. Fixed.
45049	Drip feed inefficiencies fixed.
45051	Engine's DIRECTORY_ORDER doesn't match ls
45081	PIF_Cache problem could not be reproduced.
43898	Process already running message should go to the audit file not the log file.
47695	HOURS_TO_WAIT_FOR_PARTNER_FILES and PIF_CACHING now work.
50262	Individual failing rules will now not affect other successful rule execution in TransferConfig.
51502	FTP Transfer Engine crashes if too many files are transferred. Memory problem fixed.

51748	Setting HOURS_TO_WAIT_FOR_PARTNER_FILES does not always work. Fixed.
51749	Transfer process is executed too often when parser is configured to drip feed. Fixed.
53328	Unpegger time problem now fixed.

Upgrade notes:

Upgrading from Gateway Framework r3.0.x requires updates and changes to the Vendor Gateway Engine and configuration files in the start directory.

Notification Engine
A new configuration file, **NotificationConfig.pm** must be copied into the vendor gateway start directory. A sample copy is available from the Gateway Framework r3.1.0 kit in the "**example**" sub-directory. By default the Notification Engine is disabled, without any configuration rules defined. However, the file contains sample configurations for both MPM and NPR.

Vendor Gateway Engine
Due to the new Notification Engine enhancement, all Vendor Gateway Engine modules are required to return an array containing the fail code and fail reason. The return array is from the function process_file(). The fail reason is a short text message of the failure, e.g:

```
my $fail_reason = "Could not open file $filenm";
return (-2, $fail_reason);
```

Post Parser
The entry name REDUNDANT_COUNTERS is replaced by REDUNDANT_DATA_COUNTERS for all Post Parser rules. All instances of the entry name must be updated for redundant data counters to work.

4.8 Release 3.0.1

Release date is August 2004.

Listed below are the bugs fixed in this release:

Bug#	Description
40695	INFOINSERT: configured APPEND_STR now changes secondary counter names properly.
40714	Updated the MY_VENDOR_INTERFACE.pm engine template.
40811	Engine: Storage of processed data now works if "/" is placed at end of IN_DIR
41172	Properties file now supports environment variables in the property value.
41554	INFOINSERT - Storage of information files logic now works.
41814	Gateway Framework: Misc Transfer failures now log at correct levels.
41841	Gateway Framewprk User Guide: Transfer process – missing config entries included.
42199	Transfer using rcp or scp. Return for system command now processed correctly.
42200	Gateway Framework: Transfer find operation now uses generic arguments which work on all platforms.
42201	Gateway Framework Transfer - Remote copying now works correctly.
42672	Gateway Framework – Unpegger - now sorts files in a backlog properly.
42717	Gateway Framework FTP Transfer - modification time check now checks for identical modification

	times as well as older files.
42718	Gateway Framework - FTP transfer – can now handle > 1 subdirectory level.
42853	Gateway Framework – Subdirectory storage of input files now works for two or more dirs
42999	JOIN : Now produces output filenames with same number of file tokens.

4.9 Release 3.0.0

Release date is May 2004.

Listed below are the bugs fixed in this release:

Bug#	Description
37409	Gateway Framework: PIF_Handler only attempts to close the output filehandle if it has been initialised.
36628	INFOINSERT: rule handles main and information header key of 0 correctly.
36512	INFOINSERT: rule attempts to close PIF file even when it has not necessarily created one.
35896	UNPEGGER: rule does not save previous pegged files

Listed below are the enhancements in this release. A number of fundamental architectural and functional enhancements have been made to improve the Gateway Framework, in particular its speed and usability. These are listed in the table as enhancements 1 to 8 below. The [Gateway User Guide] contains further details on configuration and usage of the Gateway Framework.

#	Description
39398	BATCHFILES: Supports the output of PIF files as well as LIF.
37352	Gateway Framework: Add counter calculation rule to Gateway Framework
35896	Gateway Framework: Add the input PIF names as comments in the output LIF file
35818	Gateway Framework: produces empty files if filesystem is full
35795	FILE_SPLIT: Support for ordering of PIF/LIF filename components
35517	INFOINSERT: post-parsing rule should support PIF files as info files
33911	INFOINSERT: Make the storage of info files optional.
1	UNPEGGER: Support the multiple time periods per PIF file.
2	Gateway Framework now supports caching of PIF objects either on disk or in memory. A Gateway caching PIF data in memory is approximately 40% faster than disk based caching.
3	Gateway Framework now supports parallel processing within engine and post parser rules, for multi processor servers.
4	A new stage has been added to the Gateway Framework. It can now be configured to transfer data both onto the local server before the engine stage, and off the local server after the post parser stage. The protocols supported are ftp/scp/rcp/cp.
5	Gateway Framework can now check for sufficient disk free space at startup.
6	Gateway Framework supports ordering of PIF/LIF counter names in output for ease of debugging.
7	Gateway Framework now supports the output of data in XML and CSV format, aswell as the standard LIF.
8	A number of new Post Parser rules have been added: PIF_REMOVE: remove PIFs between Post Parser rules. AGGREGATE_LINE: aggregates a number of counters per row matching an RE. PERLIZE: allows complete flexibility in header and data counter manipulation and creation, by passing PIF data to user defined functions for processing.

4.10 Release 2.4.0

Release date is August 2003.

Listed below are the bugs to be fixed in this release.

Bug#	Description
32462	Engine now properly removes files in a sub-directory, where storage directory variable not set.
33409	Typos in documentation fixed
33549	INFOINSERT rule now has option to remove/store INFO files.
33840	UNPEGGER rule now supports the ':' date time separator.
33947	UNPEGGER rule now supports start date/time and end date/time; start date/time and duration; and end date/time and duration;
33978	UNPEGGER now facilitates the sorting by date/time and optionally an element ID extracted from the peg filenames.
34247	PIF handler now writes completed records to disk immediately, rather than buffering unnecessarily.
35045	UNPEGGER Rule - Time difference calculation now includes date as well as time.

4.11 Release 2.3.0

Release date is April 2003.

Listed below are the bugs to be fixed in this release.

Bug#	Description
16255	The INFO_INSERT rule needs modification
28187	It would be useful to enhance the output format options in the framework.
28326	Productised parser framework should compress files after processing
28484	Data in multiple PIF blocks overruns when using BATCHFILES
31686	ACCUMULATE rule outputs 0 for NULL counters
31759	Accumulate rule does not handle MAX/MIN values
32209	DATALINE_WHERE post parsing rule needs optimisation
32287	Cannot produce LIF files from FILE_SPLIT rule
32974	Add recovery checking for parser crash during post parser rule.

Listed below are the enhancements in this release

#	Description
1	Add support for Counter based statistics. These statistics will log in LIF format the names of RAW and LIF counter processed. A single LIF file will be produced for each Gateway run. See online documents for more information.
2	Add new post parser rule UNPEGGER, which will unpeg data values between related PIF files. Unpegged values are calculated as the difference between two pegged counter values. See online documents for more information.

Appendix A Notices and Trademarks

This appendix contains the following:

- Notices
- Trademarks

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