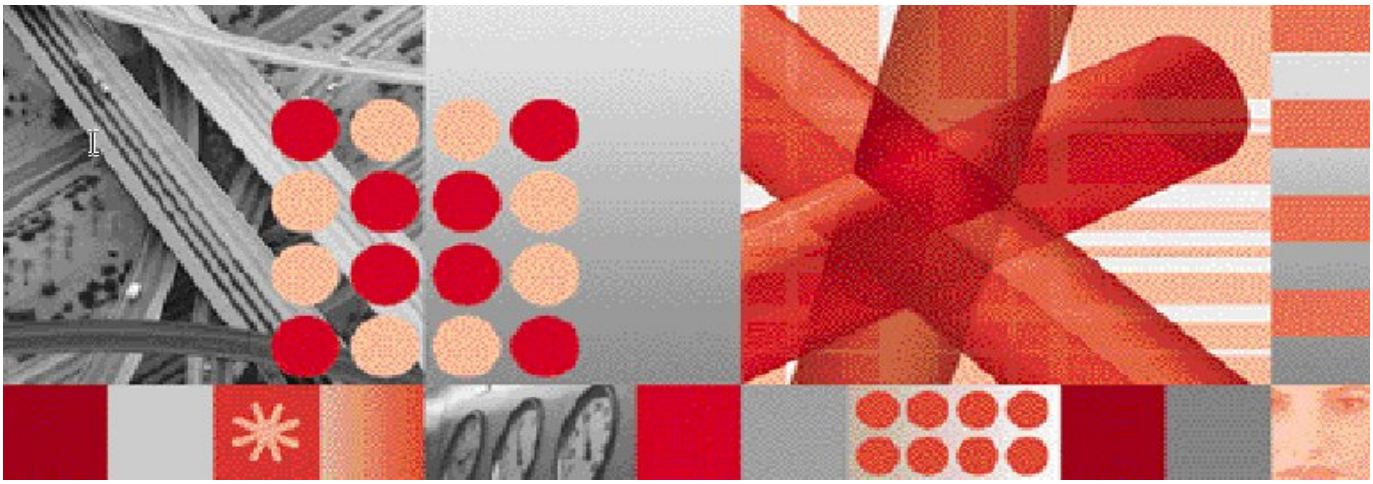
Tivoli Netcool® Performance Manager for Wireless

IBM

Version 3.4.0



Gateways Installation Note

Note: Before using this information and the product it supports, read the information in Notices on page 13.

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.

Table of Contents

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 Introduction

This document describes the steps required to install and run a Gateway. The steps described here are generic to all Productised Gateways from version 3.4 and above.

The layout of the Gateways installation was altered at the 3.4 release, and this document only applies to releases from this point.

As well as this document, readers should refer to the following documents before proceeding to install the Gateway:

- the Gateway Configuration Distribution Note
- the appropriate Vendor Gateway Distribution Note
- the Gateway Framework Distribution Note

2.1 Pre-requiresites

The Gateway Framework requires Perl version 5.6.1 installed. The supported architecture of Perl supported is list below:

Platform	Architecture
HP-UX	PA-RISC2.0
Sun Solaris	sun4-solaris
Tru64	alpha-dec_osf
RedHat Linux	i686-linux

Perl is not included with the Gateways packages.

3 Installation layout

A Vendor Gateway installation is split into 3 stages:

- The installation of the Gateway Framework,
- The installation of the Vendor Gateways,
- The installation of the Gateway Configuration, and post installation setup.

This allows a single Gateway Framework and Vendor Gateways installation to be used by multiple Gateway Configuration solutions, with subsequent ease of maintenance and version control.

3.1 Gateway Framework layout

Within the Gateway Framework there are 6 subdirectories. None of these directories need to be edited or amended in any way during installation.

These directories and their contents are described below:

1. The `perl_extensions` contains the Gateway Framework modules used by both the Framework and Vendor Gateway.
2. The `parsersrc` directory contains the perl script that controls the Gateway execution.
3. The `examples` directory contains examples of configuration files and usage of the Gateway.
4. The `docs` directory contains documentation on the configuration and use of the Gateway Framework.
5. The `install` directory contains the platform specific `perl_extensions` modules. For every new installation, the `install_extension.sh` script must be run in order to install the platform specific modules.
6. The `vstart` directory contains 4 main files (`EngineConfig.pm, UserConfig.pm, gateway_start.sh` and `gateway_version.sh`). It can also contain configuration files for each network type of the Gateway.
    - EngineConfig.pm is the configuration file of the first stage of the Gateway.
    - UserConfig.pm that is a user configurable Perl module for configuring the Gateway Post Parser.
    - TransferConfig.pm that can be used to configure the transfer in of raw files, and transfer out of processed LIF files.

- A bourne shell script that is used to start the Gateway. The script is named gateway_start.sh. This shell script should be modified to represent the locations for your particular installation, including the location of the Gateway Framework that you are using. An entry should be included in the crontab file for the shell script gateway_start.sh so that the Gateway runs at the required frequency.

3.2 Vendor Gateway layout

Within the Vendor Gateway there are 4 subdirectories. They will be contained within a directory called `modules`. None of these directories need to be edited or amended in any way during installation.

These directories and their contents are described below:

1. The `parsersrc` directory contains the parser modules for the Vendor Gateway, which contains the specific functionality to parse the specific format of the vendor's data. You should NOT change anything under this directory.
2. The `docs` directory contains documentation on the configuration and use of the Vendor Gateway and its specific Post Parser rules.
3. The `perl_extensions` contains the compiled libraries of any Vendor Gateway modules which require them.
4. The `vstart` directory may contain a combination of default configuration files specific to the Vendor Gateway. (e.g. `EngineConfig.pm, UserConfig.pm, StatisticsConfig.pm, TransferConfig.pm`).

3.3 Gateway Configuration layout

Within the Gateway Configuration there are 3 main subdirectories, (`file_stats, block_stats, docs`) and configuration directories specific for every vendor sub-system and data revision. They will be contained within a directory called `config`. The contents of these are described below

1. The `file_stats` and `block_stats` and statistics output directory when Statistics Engine is enabled.
2. The `docs` directory contains documentation on the configuration for each vendor data revision supported.
3. The configuration directories are named based on the vendor sub-system, e.g. `ericsson-bss`. Within each vendor sub-system directory contains the directories for each data revision supported, e.g. `r12_ascii`, `r12_asn1`. These directories contain the configuration files that are to be referenced by the Gateway Framework to parse the vendor data accordingly. (e.g. `EngineConfig.pm, UserConfig.pm, StatisticsConfig.pm, TransferConfig.pm`).

4 Gateway Naming Convention

The Gateway Framework has the following naming convention:

```
gateway-framework_3.w.x.p.tar.Z.
```

The Vendor Gateways has the following naming convention:

```
gways_<vendor/data_type>-<network/format>_3.w.y.p.tar.Z.
```

e.g.

```
gways_ericsson-gsm_3.4.0.1.tar.Z
gways_3gpp-xml_3.4.0.1.tar.Z
```

The Gateway Configuration has the following nameing convention:

```
gways-cfg_<vendor>-<sub_system>_3.w.z.p.tar.Z.
```

e.g.

```
gways-cfg_siemens-bss_3.4.0.1.tar.Z
gways-cfg_ericsson-sgsn_3.4.0.1.tar.Z
```

where:

<vendor/date_type> is the name of the network vendor e.g. nokia, ericsson or standards body data type e.g. xml, asn1

<network/format> is the network e.g. gprs, cdma, or the data format e.g. XML.

<sub_system> is the network sub system e.g. sgsn, mgw.

The version numbers are described in the table below:

Version Numbers	Description
Major – w	Gateway Framework major release number
Minor – x	Gateway Framework minor release number
Point - y	Vendor Gateway point release number
Point - z	Gateway Configuration point release number
Point - p	Patch release number

5 Installation Procedure

The installation procedure is broken into 3 stages:

1. Installation of the Gateway Framework,
2. Installation of the Vendor Gateway,
3. Installation of the Gateway Configuration.

Step 1 and 2 only needs to be completed if a version of the Gateway Framework and Vendor Gateway has not already been installed on the server.

Create a Gateways root directory where all the Gateway Framework, Vendor Gateways and Gateway Configurations will be installed. A common name that can be used is "`gways`". The full path to `gways` must be set for the environment variable **`GATEWAY_ROOT`**.

5.1 Gateway Framework Installation

Within the `GATEWAY_ROOT` directory, the Gateway Framework is installed in the "**gateway-framework**" directory. This directory will be referenced by all Gateway Configurations. This path will be set for the environment variable `GATEWAY_FRAMEWORK` by default.

1. Uncompress the package:

   ```
   gunzip vallent-vt-<gateway-framework_r3.w.x.p>.tar.gz
   ```

2. Install the package:

   ```
   vallent-vt-<gateway-framework_r3.w.x.p>.install
   ```

Several directories will be created. These directories contain the common modules and functions of the Gateway Framework, and will be referenced by the Gateway Configuration Installation.

5.2 Vendor Gateway Installation

The following steps should be undertaken to install a Vendor Gateway. The example below uses the Gateway for 3GPP XML for illustration.

Within the `GATEWAY_ROOT` directory, all Vendor Gateways is installed in the "**modules**" directory with their respective vendor technology directory name. This directory will be referenced by all Gateway Configurations that requires it. This path will be set for the environment variable `VENDOR_GATEWAY` by default.

1 Uncompress the package:

```
gunzip vallent-vt-gways_<vendor-network_r3.w.y.p>.tar.gz
```

2 Install the package:

```
vallent-vt-gways_<vendor-network_r3.w.y.p>.install
```

Several directories will be created. These directories contain the vendor gateway modules and functions of the Vendor Gateways, and will be referenced by the Gateway Framework start script.

5.3 Gateway Configuration Installation

The following steps should be undertaken to install a Gateway Configuration. The example below uses the Gateway Configuration for Ericsson SGSN R5 for illustration.

Within the `GATEWAY_ROOT` directory, the Gateway Configuration is installed in the "**config**" directory with each respective vendor sub-system and release directory. These directories name are a unique for each vendor sub-system and release, e.g. "`ericsson-sgsn`" and "`r5`". The path must be set for the environment variable `GATEWAY_CONFIG`, and RELEASE.

1. Uncompress the package:

```
gunzip vallent-vt-gways-cfg_<vendor-subsys_r3.w.z.p>.tar.gz
```

2. Install the package:

```
vallent-vt-gways_cfg_<vendor-subsys_r3.w.z.p>.install
```

The Gateway Configuration directory will be created. This directory contains the gateway configuration files of the Gateways Configuration, and will be referenced by the Gateway Framework start script.

For additional configurations of the Gateway Configuration, please follow the instructions in the Gateway Framework User Guide, and the respective Vendor Gateway User Guide for the Gateway Configuration.

6 Post-Installation Procedure

Create the spool directories for input files, intermediate files, and loader files. Set the directories according in the `properties` files for the variables below:

```
IN_DIR=./spool/input_d
INT_DIR=./spool/inter_d
OUT_DIR=./spool/output_d
```

The `properties` file must exist within the Gateway Configuration release directory and updated accordingly. A copy of the `properties` file is available within the `vstart` directory of the Vendor Gateway as a template.

Set the following environment variables accordingly.

- TZ: the time zone as defined in RFC 822

```
Universal:  GMT, UT
US zones :  EST, EDT, CST, CDT, MST, MDT, PST, PDT
Military :  A to Z (except J)
Other    :  +HHMM or -HHMM
ISO 8601 :  +HH:MM, +HH, -HH:MM, -HH
```

- PERL5_BASE: the full path to where Perl base is installed, which contains the `bin` and `lib` directories.

```
PERL5_BASE=/usr
```

- PERL5: the path of the perl command, which is commonly in the bin directory of PERL5_BASE. Please set it if otherwise.

```
PERL5=${PERL5_BASE}/bin/perl
```

7 Running Gateway

To start the Gateway, run `gateway_start.sh` within the Gateway Framework `vstart` directory by passing in the Vendor Sub-system and Release of the vendor data as arguments:

```
gateway_start.sh –vendor <vendor_subsys> –release <data_version>
```

where:

`<vendor_subsys>` The Vendor and Subsystem, e.g. 'ericsson-bss'. The name coincides with the Gateway Configuration directory name.

`<release>` The data version for the Vendor Subsystem, e.g. 'r12_ascii'. The name coincides with the Gateway Configuration vendor release directory name.

Configure the crontab file for the `gateway_start.sh` command as above so that the Gateway runs at the required frequency.

8 Associated Tasks

House keeping scripts should be configured to remove '.bad' files from the input, intermediate and output directories, after these files have been there for a certain amount of time.

Appendix A Notices and Trademarks

This appendix contains the following:

- Notices
- Trademarks

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