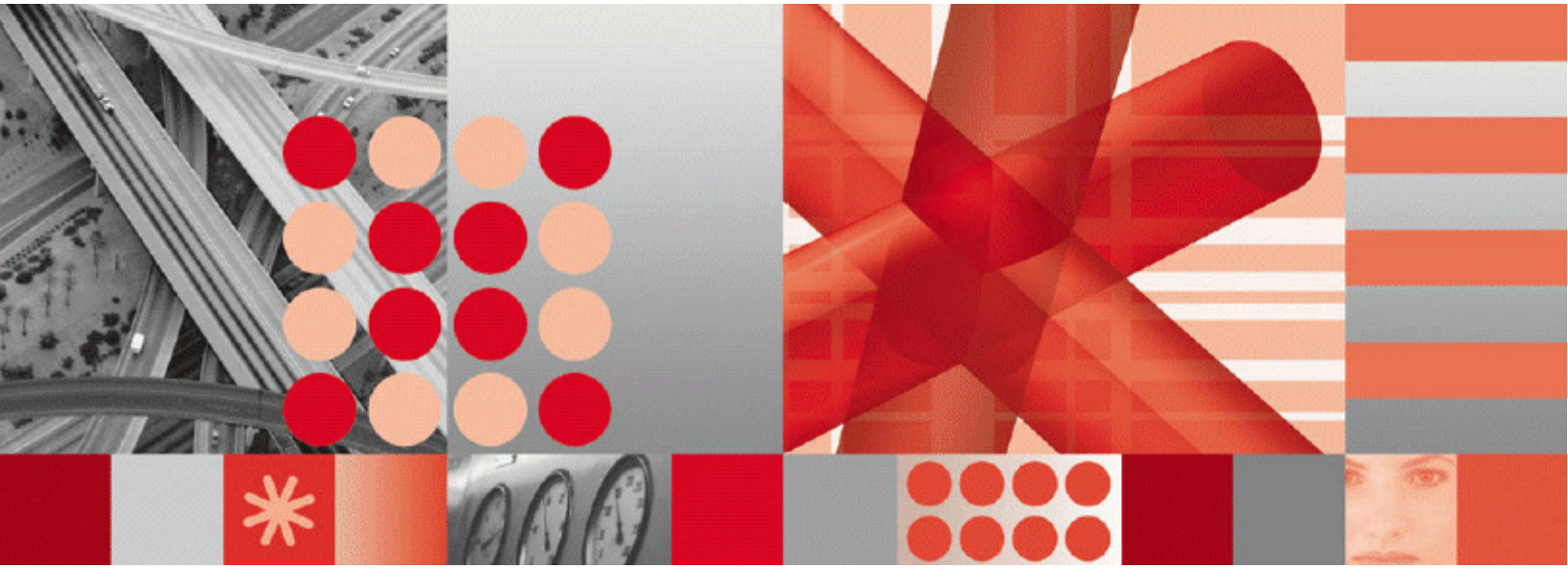
Tivoli Netcool® Gateway Framework

Version 3.5.1

IBM



Gateways Installation Note

Note: Before using this information and the product it supports, read the information in on page 15.

This edition applies to Version 3.5 of IBM® Tivoli® Netcool® Gateway Framework and to all subsequent releases and modifications until otherwise indicated in new editions.

Table of Contents

1 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 Intended Audience

This document is intended for Vallent Consultants and partners deploying the Gateway.

2.1 Prerequisites

The Gateway Framework requires Perl version 5.6.1 installed. Perl is not included with the Gateways package. Download the appropriate Perl version and build Perl on a supported architecture. Refer to the Perl Build Instructions for more details. The following are the supported Perl build architecture for the platforms respectively.

Operatin System Version(s)	Chipset	Perl Build Architecture
HP-UX 11.11	PA-RISC2.0	PA-RISC2.0
Solaris 9 & 10	SPARC	sun4-solaris
Tru64 UNIX 5.0	DEC-ALPHA	alpha-dec_osf
Red Hat Enterprise Linux Server 4 & 5	x86-32, and x86-64	i686-linux
	PPC64	ppc64-linux
AIX 5.3	PPC64	aix

Note: x86-64 includes EM64T (Xeon) and AMD64 (Opteron); x86-32 is Intel 32-bit and AMD Athlon

3 Gateway Package Naming Convention

The Gateway Framework package has the following naming convention:

gways-gateway-framework-3.w.x.p.tar.Z

e.g.

```
gways-gateway-framework-3.5.1.9.tar.Z
```

A Vendor Gateway package has the following naming convention:

```
gways-<vendor/data>-<network/format>-3.w.y.p.tar.Z
```

e.g.

```
gways-ericsson-gsm-3.5.0.1.tar.Z
gways-3gpp-xml-3.5.0.1.tar.Z
```

A Gateway Configuration package has the following naming convention:

```
gways-cfg-<techpack-name>-<techpack_version>.tar.Z
```

e.g.

```
gways-cfg-gsm-siemens-nss-sr13-3.4.0.2.tar.Z
gways-cfg-umts-ericsson-sgsn-r8-1.0.0.1.tar.Z
```

where:

`<vendor/data>` 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.

The version numbers are described in the table below:

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

NOTE: Older Gateway Configuration packages will have `vallent-vt-` prefix before `<gways-cfg-techpack-name>`

4 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`**.

NOTE: If a package is being redeployed, it is important to remove the previously installed package. Procedures for removing an installed gateway package are defined in a later chapter of this document.

4.1 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:

```
zcat gways-gateway-framework-3.w.x.p.tar.Z | tar xf -
```

Please refer to Section 5.1 for the Gateway Framework layout. These directories contain the common modules and functions of the Gateway Framework, and will be referenced by the Gateway Configuration Installation.

4.2 Vendor Gateway Installation

The following steps should be undertaken to install a Vendor Gateway. Within the `GATEWAY_ROOT` directory, all Vendor Gateways are 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:

```
zcat gways-<vendor/data>-<network/format>-3.w.y.p.tar.Z | tar xf -
```

Please refer to Section 5.2 for the Vendor Gateways layout. These directories contain the vendor gateway modules and functions of the Vendor Gateways, and will be referenced by the Gateway Framework start script.

4.3 Gateway Configuration Installation

The following steps should be undertaken to install a Gateway Configuration. 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.

1. Uncompress the package:

```
zcat gways-cfg-<techpack-name>-<techpack_version>.tar.Z | tar xf -
```

Please refer to Section 5.3 for the Vendor Gateways layout. 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.

If the the StatisticsConfig.pm script is configured, then create the `file_statistics` and `block_statistics` directory in the config directory.

eg. `$GATEWAT_ROOOT/config/<vendor-subsys>/file_statistics`

`$GATEWAT_ROOOT config/<vendor-subsys>/block_statistics`

5 Installation layout

A 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.

5.1 Gateway Framework layout

Within the Gateway Framework there are 5 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 `example` 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 `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.
   - The `gateway_start.sh` script that is used to start the Gateway.

5.2 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` only exists for certain Vendor Gateways. It 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`). The StatisticsConfig.pm and TransferConfig.pm file can be obtained from the gateway framework example directory.

5.3 Gateway Configuration layout

Within the Gateway Configuration there are 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 `docs` directory contains documentation on the configuration for each vendor data revision supported.
2. 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, NotificationConfig.pm`). The `StatisticsConfig.pm, TransferConfig.pm` and `NotificationConfig.pm` file can be obtained from the gateway framework `example` directory.
3. If the Statistics Configuration is configured, the `file_statistics` and `block_statistics` directory must be created manually by the user, and the path specified in the `StatisticsConfig.pm`.

6 Post-Installation Procedure

Gateway Framework

Set the following environment variables accordingly.

- GATEWAY_ROOT: the base path to where all Gateway components have been installed

  ```
  GATEWAY_ROOT=${WMCROOT}/gways
  ```

- 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
  ```

Gateway Configuration

The Gateway Framework will make use of properties file for its operation. This file must exist within the Gateway Configuration release directory and updated accordingly, for example :

```
$GATEWAY_ROOT/config/siemens-bss/br10/properties
```

where siemens-bss is the vendor and br10 is the release version. A copy of properties file is available within $GATEWAY_ROOT/gateway-framework/vstart directory as a template.

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

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

Create the `file_statistics` and `block_statistics` directories within the `vendor-subsys` directory if the `StatisticsConfig.pm` is configured for the Gateway Configuration.

To enable notification for monitoring services, copy the NotificationConfig.pm from the Gateway Framework example directory and edit it return the relevant array rule for the respective monitoring service, i.e. either `@rules_NPR`, `@rules_MPM`, or `@rules_ITM`.

7 Upgrade Procedures

All Gateway Configurations that was previously configured for the Gateway release 3.3.1 and earlier must be migrated into the configuration structure for Gateway release 3.4 in order to be compatible with Gateway Framework 3.5.

7.1 Software Requirement

Gateway release 3.5 requires Perl version 5.6.1. Please refer to the Perl Build Instruction to compile and install Perl on your system.

7.2 New Configuration Structure

The new directory structure for the Gateway Configurations for Gateway release 3.4 and above is as follow:

```
$GATEWAY_ROOT
    |-gateway-framework
    |-modules
    |   |-<vendor-gateways>
    |-config
        |-<vendor-subsys>
            |-<data_version>
```

The following steps describe the procedures to upgrade Gateway configurations from Gateway release 3.3.1 and below into 3.4:

1. Create the new configuration directory for the Gateway configurations within the GATEWAY_ROOT directory:

   ```
   $GATEWAY_ROOT/config/<vendor-subsys>/<data_version>
   ```

2. Copy the properties and configuration files from the old Gateway configuration into the new directory above, except for `gateway_start.sh`, `gateway_version.sh`, `cpan_check.pm` and `cpan_list`.

3. Update the `properties` file to include the log level and log filename in the following environment variables:

   ```
   LOG_LEVEL=5
   LOG_FILE=</log_path/log_filename>
   ```

   These variables were defined in the old Gateway configurations gateway_start.sh.

7.3 Configuration of properties file

New environment variables are required in the `properties` file for each Gateway Configuration migrated from Gateway 3.4 and earlier. Below is the list of variables new in Gateway 3.5:

- `LOG_LEVEL` - specifies the log level which was previously defined in `gateway_start.sh`.
- `LOG_FILE` - specifies the path and file name of the log file which was previously defined in gateway_start.sh.
- `MAX_NUMBER_OF_PROCESSES` - specifies the number of Gateway processes allowed to be spawned for multiple independent blocks configured in the `UserConfig.pm`. By default this variable should be set to 1.

8 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.
`<data_version>`	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.

9 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.

10 Removing Gateway Packages

The Gateway package removal scripts are typically found in the Tivoli Netcool Performance Manager for Wireless' Administration sub-directory for gateways:

```
${WMCROOT}/admin/software/gateways/
```

To remove a specific Gateway package, locate and run the `<gateway_package>.remove` script.

```
${WMCROOT}/admin/software/gateways/<gateway_package>.remove
```

Where `<gateway_package>` is the name of the gateway component package to be removed. The gateway package naming convention is outlined in a previous section.

For example, the following scripts are used:

- To remove the Gateway Framework package

  ```
  gways-gateway-framework.remove
  ```

- To remove a Vendor Gateway package such as 3gpp-xml

  ```
  gways-3gpp-xml.remove
  ```

- To remove a Gateway Configuration package such as siemens-bss

  ```
  gways-cfg-siemens-bss.remove
  ```

Appendix A Notices and Trademarks

This appendix contains the following:

- Notices
- Trademarks

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