Gateways
Installation Note

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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

1 Intended Audience

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

2 Pre-requiresites

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 from IBM Support Tech Docs 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 10.2 & 11.0	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 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 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.

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 sample 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 `vstart` directory.

3.3 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 `file_statistics` and `block_statistics` output directory when Statistics Engine is enabled. These directories are to be created manually by the user.
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`). The `StatisticsConfig.pm` and `TransferConfig.pm` file can be obtained from the gateway framework `vstart` directory.

4 Gateway Naming Convention

The Gateway Framework has the following naming convention:

`gways-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 naming 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

The following procedure installs the Gateway Framework. The Gateway Framework is installed in the `$GATEWAY_ROOT/gateway-framework` directory. This directory will be referenced by all Gateway Configurations. This path will be set for the environment variable `$GATEWAY_FRAMEWORK` by default.

1. Uncompress the package in a temporary directory, `<tmp_dir>`:

   ```
   uncompress gways-<gateway-framework-3.w.x.p>.tar.Z
   ```

2. Go to the the `GATEWAY_ROOT` directory:

   ```
   cd $GATEWAY_ROOT
   ```

3. Untar the package:

   ```
   tar -xvf <tmp_dir>/gways-<gateway-framework-3.w.x.p>.tar
   ```

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 procedure installs a Vendor Gateway. All Vendor Gateways is installed in the `$GATEWAY_ROOT/modules` directory with their respective vendor technology directory name. This directory will be referenced by all Gateway Configurations that requires it.

1. Uncompress the package in a temporary directory, `<tmp_dir>`:

   ```
   uncompress gways-<vendor-network-3.w.y.p>.tar.Z
   ```

2. Go to the the `GATEWAY_ROOT` directory:

   ```
   cd $GATEWAY_ROOT
   ```

3. Install the package:

   ```
   tar –xvf <tmp_dir>/gways–<vendor–network–3.w.y.p>.tar
   ```

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 Standard Gateway Configuration Installation

The following procedure installs a standard Gateway Configuration. The Gateway Configuration is installed in the `$GATEWAY_ROOT/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 in a temporary directory, `<tmp_dir>`:

   ```
   uncompress gways–cfg–<vendor–subsys–3.w.z.p>.tar.Z
   ```

2. Go to the the `GATEWAY_ROOT` directory:

   ```
   cd $GATEWAY_ROOT
   ```

3. Install the package:

   ```
   tar –xvf gways–cfg–<vendor–subsys–3.w.z.p>.tar
   ```

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.

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

eg. `config/<vendor–subsystem>/file_statistics`

`config/<vendor–subsystem>/block_statistics`

5.4 Non-Standard Gateway Configuration Installation

Non-Standard Gateway Configurations that does not follow the installation layout above must follow the documentations provided by the respective offering product user documentations.

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 Gateway Framework 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.
`<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.

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.