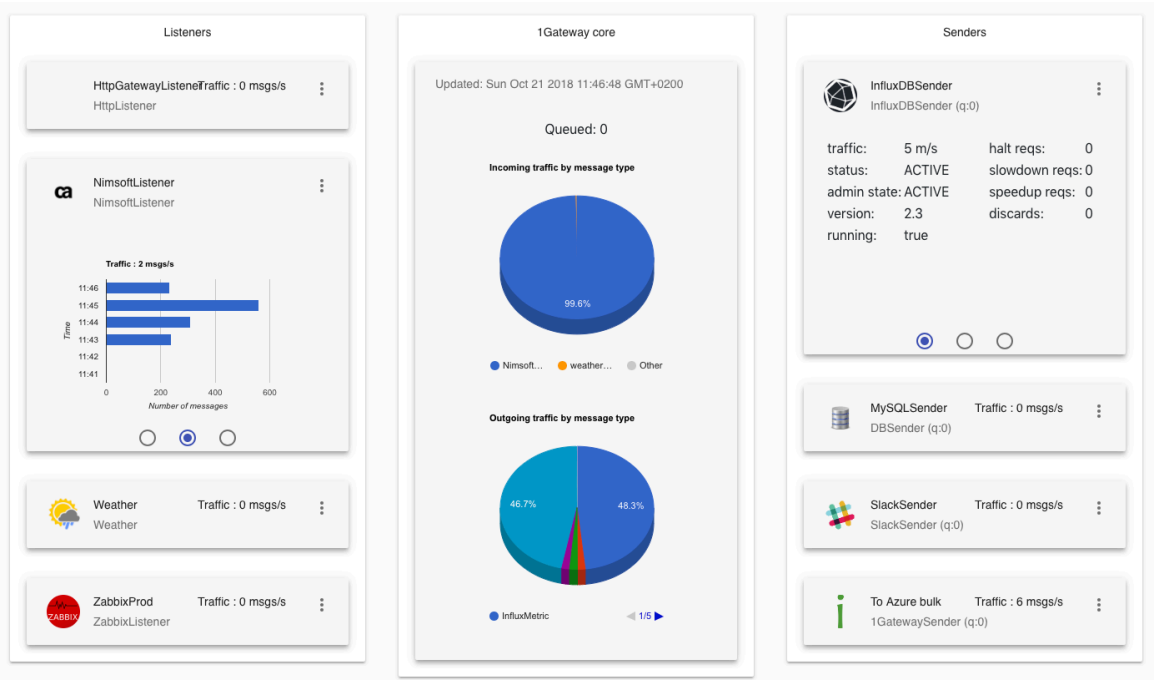
Integrating disparate IT management tools without writing code



A Faciligate White Paper

Introduction

Most IT organizations use multiple different IT management tools to monitor and manage their IT infrastructure, whether it be on-premises, in the cloud, or both. This proliferation of management products makes it difficult to gain a comprehensive view of the status of mission-critical applications, service levels and the quality of service delivery in general. It also adds complexity to support and problem-solving procedures.

Proliferation of IT management tools adds complexity

Traditional approach

One approach to solve this is to standardize on a single toolset. The problem is that there is no single integrated toolset that meets all the requirements, and one can expect resistance from employees that are responsible for specific areas of IT management. Moreover, standardizing on a single product means writing off potentially large investments made in existing tools, and migration is a risky and expensive undertaking.

Unifying on a single toolset is **expensive** and **risky**.

Another approach is integration of the existing disparate tools. This usually means bespoke development, which in turn means high cost and no technical support or SLAs. After spending many years building this kind of bespoke integrations working for companies like BMC Software, Nimsoft and CA Technologies, the founders of Faciligate realized there is a better way of doing this.

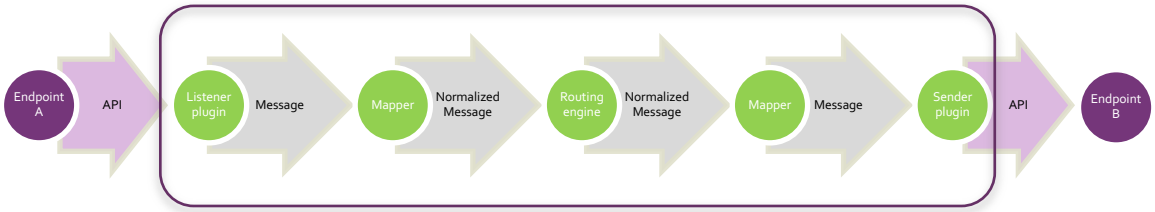
Integrations are often bespoke and unsupported

Faciligate approach

Faciligate 1Gateway is a fully supported product that integrates disparate infrastructure and application monitoring tools as well as service desk and configuration management systems. It takes less than an hour to implement and is both easy and flexible.

How does it work?

1Gateway communication is message-based. A 1Gateway message is a nested key-value structure that has a message type that indicates the format of the data inside the message.



1Gateway dataflow

Messages received by Listener plugins are "normalized" or transformed into a standard format message representing either an event, a metric or an incident, before they are put on the 1Gateway message queue. Next, the 1Gateway routing engine determines where each message should go and forwards them to the relevant Sender plugin(s). There they are transformed from the normalized message format into a format understood by the receiving endpoint and sent through that endpoint product's standard API's. This normalization process ensures that plugins are reusable and compatible with all other and future plugins.

Reusable plugins ensure present and future compatibility

Plugins

1Gateway exchanges messages with the outside world through Listener and Sender Plugins. A Listener plugin receives or retrieves messages from external endpoints, whereas a Sender plugin forwards messages to other endpoints. 1Gateway messages can be expressed in json, xml or form data.

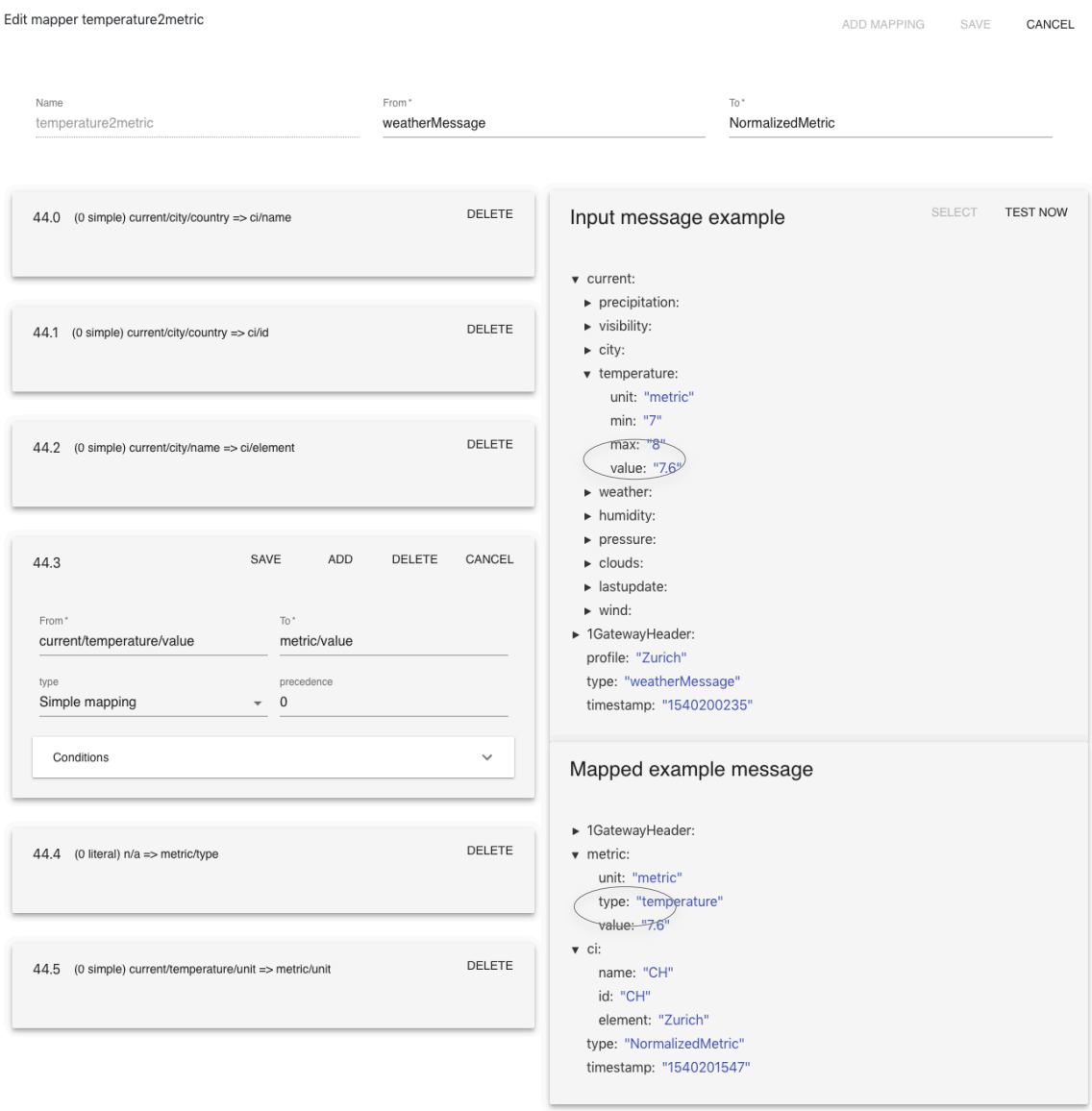
Faciligate offers a growing list of vendor-specific plugins, connecting directly to popular monitoring and service desk endpoints. Additionally, the 1Gateway Plugin SDK enables customers to connect any other datasource or destination through a series of generic APIs implementing protocols like REST, SQL or raw TCP sockets.

The 1Gateway Plugin SDK makes it easy to connect additional endpoints

Normalization and message conversion

The 1Gateway component that normalizes and converts messages is called a Mapper. Each Mapper is responsible for the conversion from one message type to another, for example from PRTGMessage to NormalizedMetric. Mappers work at the Message level. Mappers consist of Mappings, and Messages consist of Fields (key-value pairs). Mappings work at the Field level, they determine how to generate the Fields in the converted message. There are many different types of mappings to perform functions like variable substitution, unit conversions, date format conversion, pattern matching, regular expressions, etc. There is even a mapping that detects state changes, converting sample-based data into event-based data.

Powerful mapping capabilities handle data conversion



Users can tweak the predefined mappers to cater for their particular implementation of the endpoint products.

The 1Gateway Mapper editor provides instant feedback on changes made to a mapper. A sample message selected by the user is mapped in real-time, showing the result of the new definition before it is put into production. All standard plugins come with predefined mappers, but customers can tweak those mappers to match them to their particular implementation of the endpoints.

The internal 1Gateway message format implements the "composite pattern" which ensures no information is lost during normalization. Even though not all fields from

all endpoints are present in the normalized formats, the original message is queued together with the normalized message. This means that two endpoints of the same type can exchange information through 1Gateway in their native format.

Routing

All routing, from listener plugin to mappers to sender plugins, is handled through Conditions. A Condition is essentially a message filter, and messages that pass a component's filter are routed to that component for processing. Conditions can be joined with Boolean logic and they can be applied to Plugins, Mappers and even Mappings.

Conditions are used to specify which messages should go where, and in what format.

Synchronization

Alerts and incidents are kept in-sync through bi-directional communication

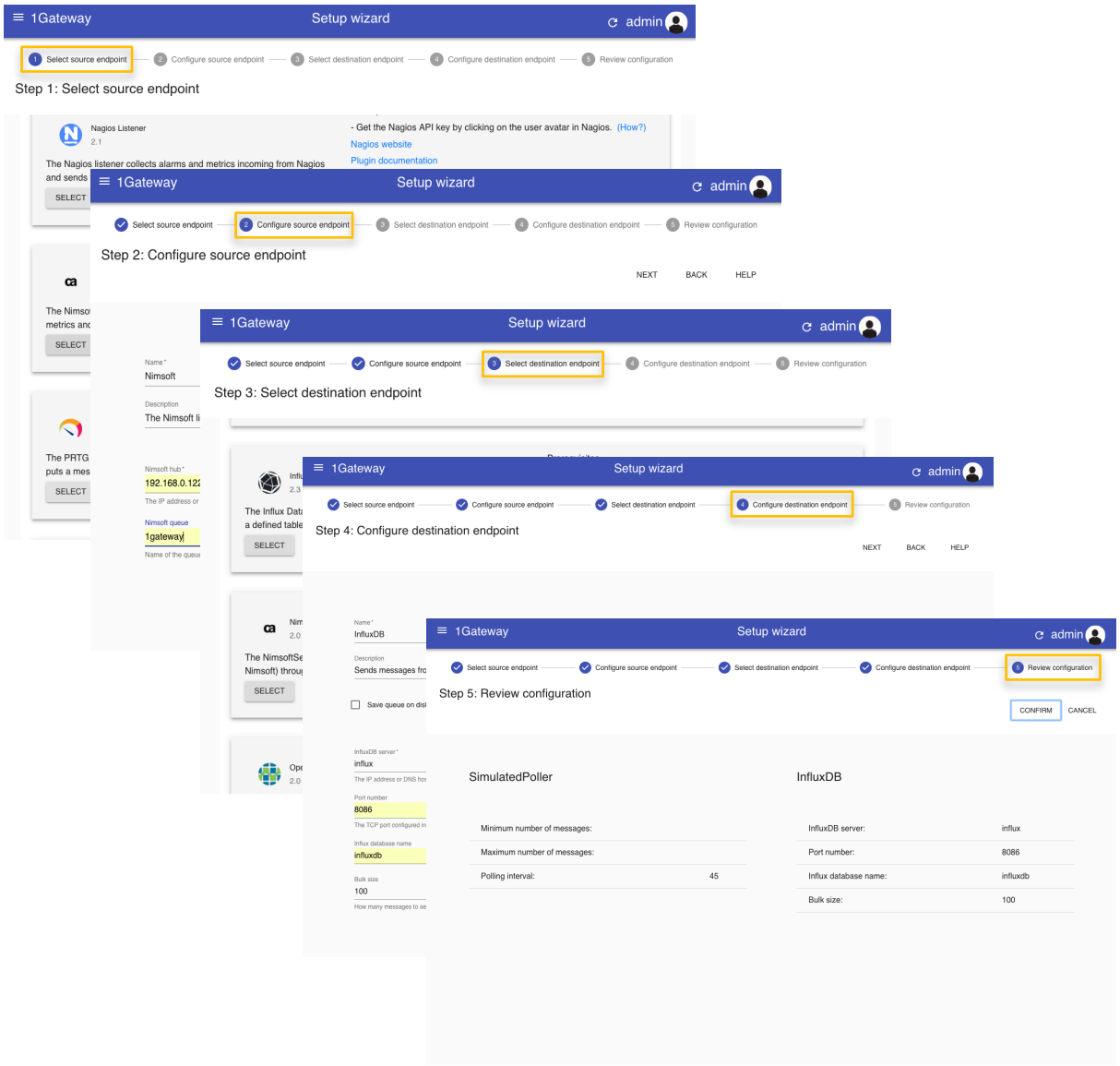
1Gateway not only forwards messages from one system to another, it can also keep information synchronized, propagating any changes made by either endpoint. Synchronization is important to keep alarm lists updated, or to keep trouble tickets synchronized between MSPs and customers.

Integrating new systems

In case you need to integrate a product that is not on our growing list of plugins, REST APIs are available to send and/or retrieve messages from 1Gateway, or 1Gateway can invoke your REST API to push/pull messages. In case that's not enough, we also offer a powerful Java SDK to develop new plugins. Standard messaging and queueing systems like QPID can also be used to exchange messages with other systems through 1Gateway.

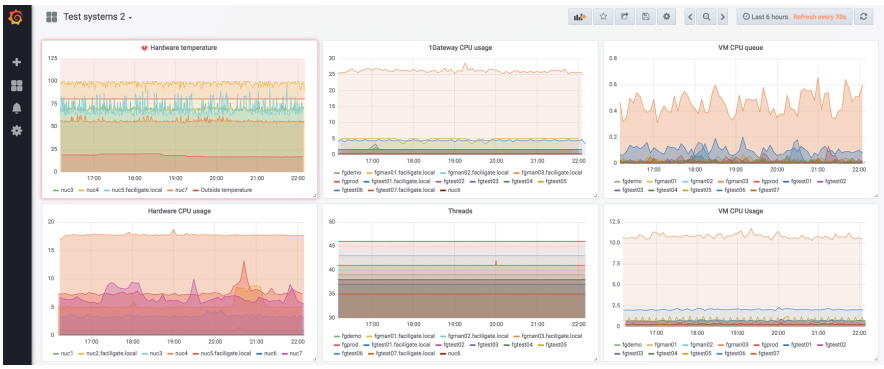
Easy

Someone once said that a user interface is like a joke; if you have to explain it, it's not very good. We understand that you don't have time to earn a master's degree in using our software, and therefore one of our top priorities is to make our user interface as easy as possible. The 1Gateway guided setup wizard includes "show me how" links to all relevant information needed to setup not only the 1Gateway plugins, but also the endpoint configuration. Connect any pair of endpoints In 5 simple steps …



… and watch the messages flow into the analysis or dashboard tool of your choice.

1Gateway status page



Influx / Grafana performance dashboard

Why not give it a try?

1Gateway can be deployed in the cloud as a SaaS offering or on-premises. It runs on any Java-enabled platform, is completely secure and can be installed on high-availability clusters. For more information or to request a demo or trial, please go to https://www.faciligate.com/contact or send an email to info@faciligate.com.