# How NonStop Customers Are Using REST to Up Their Game

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One of NuWave's customers recently implemented an interesting use case with LightWave Client™. This customer processes payment transactions, and as part of the transaction authorization process, needed to integrate with a rules engine running on Unix. The rules engine was only available as a REST-based Web service, so the NonStop-based payment solution needed to invoke those REST services.

The customer decided to implement LightWave Client™ to provide the REST connectivity between the two disparate applications. After a undergoing a project to create the end-customer-facing application, as well as configuring and testing LightWave Client™, the payment solution was integrated with the rules engine. As a result, the payment solution is able to utilize the logic in the rules engine, and use the decisions returned from the rules engine as part of the decision of whether or not to **approve the transaction.**
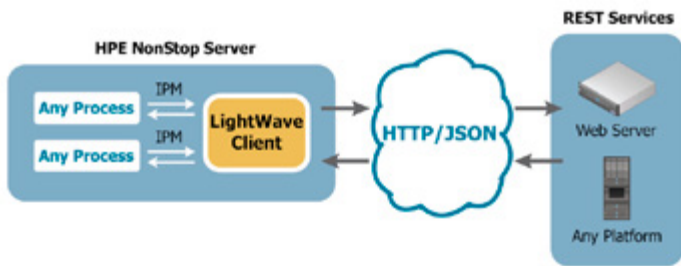
In the blink of an eye, the NonStop payment application sends an interprocess message to LightWave Client™, the software converts the request into a JSON message, sends it to the REST service on Unix, the rules engine responds with a yes or no depending on whether the transaction meets the criteria in the database, and LightWave Client™ returns an IPM response to the NonStop payment application so it can carry out or terminate the transaction.

This is an excellent example of one of the key benefits of accessing REST-based services from NonStop applications. Our NonStop applications perform their core functions very well day in and day out--that's the point of the NonStop server, after all. However, as new business demands and tight deadlines continue to push us forward, we're constantly having to decide on the best, quickest, and easiest options to deliver new features to our customers, business partners, and internal end users.

REST services are one option to consider when making this decision. ProgrammableWeb.com, the web's largest directory of Web APIs, currently lists over 19,000 different publicly available APIs, the majority of which are provided as REST interfaces. There is an API to do just about anything you can think of. When faced with a new requirement for a NonStop application, developers may want to consider what is already available as an API and decide whether using that API might be the quickest and best route to market.

NuWave has a number of product demonstrations using REST APIs, including

- An application that sends address data to the Google Maps API, and shows how that data can be quickly verified and corrected by Google where necessary

- A simple command line application that takes a stock ticker symbol and retrieves up-to-date stock prices from the MarkItOnDemand REST service

- A demonstration environment that shows how EMS events can be quickly integrated with enterprise event management using OpsGenie, allowing NonStop EMS events to take advantage of all the capabilities of these enterprise solutions.

All these demos use publicly available APIs to bring value to the NonStop, and all are available for download at NuWave's Github site at https://github.com/nuwavetech.

There are many other ways that REST services can be used from the NonStop, including:

- Integrate with an enterprise API gateway, or other enterprise applications

- Push events, or results of work, to an enterprise service, or the cloud

- Control (start, stop, check status of) offboard services

- "Burst" work to the cloud, if NonStop workload requires it

Some of the more popular services listed on ProgrammableWeb, that have significant potential usage for typical NonStop applications, include:

Mobile phone APIs, including mobile payments

NonStop applications utilize REST APIs to easily provide mobile phones services to their users. This could allow confirmation or alert messages to be sent by text, or even facilitate two factor authentication.

Transportation APIs, including routing and other distribution-type features

A number of NonStop customers run their distribution systems on NonStop. These APIs could facilitate better routing of goods, and other transportation-related improvements.

Payments APIs, including services from Visa, Amazon, PayPal, eBay and many others

NonStop payments users may wish to add new card services and payment options. REST APIs can enable this easily and may even allow some cost savings when compared with legacy methods.

Database and noSQL APIs, including those from Google, Amazon, Yahoo and Github

NonStop users that have noSQL installations in-house may be able to use REST APIs to quickly get at the data housed in those installations, allowing the data to be integrated with NonStop applications.

Security APIs, including Single Sign-On (SSO) and two-factor authentication solutions

Many NonStop applications and environments need better security, and NonStop security administrators are often being pushed to integrate with enterprise SSO or 2FA solutions. Almost all of these solutions provide REST interfaces and can be easily accessed in this manner.

And there are many, many more. Most of us could probably find one or more services that could be integrated into our NonStop applications to provide enhanced features to our end users.

As NonStop users, we all want to use the NonStop for what it's best at, but we also want to make sure that our NonStop applications can continue to evolve and provide new features and capabilities to our customers. REST APIs are a valuable tool to help us keep our NonStop applications current and fully featured, maximizing the value that our customers and end users see from the platform and its applications.

Andrew Price has over 28 years of experience in the NonStop space. After working at Insession and ACI in numerous positions, including Director of Solutions Consulting and Sales Support, he moved on to XYPRO, where he was initially Director of Product Management and then VP Technology. Today, he is Director of Sales and Business Operations in Asia Pacific for NuWave; focusing on sales, business development, and first-level support in the region.