



With Progress® Sonic ESB®, Pernod Ricard Pacific achieved a competitive advantage for its viticulture, winemaking, and grape logistics operations.

## CHALLENGE

The company faced the challenge of aligning harvesting, transportation, and production resources in space and time to maximize the value from highly perishable grape assets.

## SOLUTION

Pernod Ricard Pacific implemented Progress® Sonic ESB® as the integration backbone for distributed and timely decision making.

## WHY PROGRESS® SOFTWARE

The organization selected Sonic ESB to connect diverse data sources to optimize its planning process and reap maximum returns for its winemaking business.

## BENEFIT

Pernod Ricard Pacific has already realized improved throughput for its production operations and now more efficiently manages its supply chain and grape logistical operations.

## CASE STUDY

### CONNECTING A DISTRIBUTED SUPPLY NETWORK

Pernod Ricard Pacific is the Australasian division of the international Pernod Ricard group—the world's second largest wine and spirits company—and parent company of Orlando Wines. Using Progress Sonic ESB and a new service-oriented architecture (SOA), Pernod Ricard Pacific has improved operations for its viticulture, winemaking, and grape logistics management systems.

Due to a complex supply network, Pernod Ricard Pacific faces a unique challenge every year in taking grapes off the vines, into the winery, and through the fermentation process. This requires a great deal of planning of resources and materials in order to ensure an optimum supply chain flow.

According to Ric Hayman, Innovation Manager with Business Information Services for Pernod Ricard Pacific, "With over 500 independent growers, more than 3,000 individual vineyard blocks, nearly 200 harvest operators, 95 independent trucking contractors, six Orlando Wines-operated wineries, and up to 16 independent contract wineries, it is easy to understand why we call it a supply network rather than a supply chain."

The goal of the integration project was to maximize the value of its highly perishable grape assets. Grape value loss can occur at multiple points in the supply network, for example when harvested grapes awaiting transport suffer prolonged exposure to rain or elevated temperatures. Combating this potential loss through better capacity planning and operational coordination is a considerable logistics challenge for a major wine producer.

Pernod Ricard Pacific selected Progress Sonic ESB to connect multiple data sources to optimize its planning process and reap maximum returns for its winemaking business. Sonic ESB is a messaging-based enterprise service bus that simplifies the integration and flexible re-use of business applications within an SOA. It eliminates the rigidity and fragility of point-to-point integration with a robust, event-driven architecture that can evolve, scale, and extend throughout the enterprise.



## INTEGRATING DECISION SUPPORT

The specialized data for grape intake logistics is extensive and complex with, for example, dozens of rules governing the mixing of grapes from different sources into a fermentation tank. All this makes integration of decision support applications a challenge. For a number of years, Orlando Wines has used electronic messaging between its winery weighbridge equipment, laboratories, and centralized IT infrastructure. This messaging unifies, with maximum integrity and instant data availability, the truckload mass, grape composition and grape origin data that is essential for managing both grower payments and winemaking operations.

Progress Software's Progress® SonicMQ® is at the heart of this system—which is named WeighMaster—and it provides the messaging technology platform. Based on the initial success of the WeighMaster system, Pernod Ricard Pacific maintained and expanded its use of Sonic and adopted an SOA to support its major IT-integration activities.

Commonwealth Scientific and Industrial Research Organization (CSIRO) is Australia's national science agency and one of the largest research agencies in the world. The organization uses mathematical, computational, and statistical techniques to develop new technologies for managing supply chains, and CSIRO provides Pernod Ricard Pacific with software applications that link together to form a decision support and planning system for its viticulture operations. By 2006, the value of prototype CSIRO software had been proven and CSIRO proposed the next generation of decision support tools for Orlando Wines.

"Decision support software applications typically need to access large volumes of up-to-date data, even if the desired result (e.g. a pricing decision, a prediction, or a schedule) is relatively compact," said Dr. Simon Dunstall, Leader, Adaptive Supply Networks for CSIRO. "The applications also need specialized data not usually required by common transactional business systems."


## INTEGRATING DATA SOURCES AND APPLICATIONS

Carefully tracking grape supplies throughout the winemaking process is essential for ensuring a profitable harvest, and decision making is distributed throughout the organization to allow viticulture specialists and winemaking experts to successfully collaborate. "SOA allows CSIRO to deliver optimization and statistical technologies in an easy, flexible, and fast way," explained Dunstall. "An enterprise service bus allows companies like Pernod Ricard Pacific to jump ahead of the competition very quickly and very effectively."

"While we had internal resources that were capable of setting up the integration using Sonic ESB, most of them were already engaged in other projects and we were resource constrained," said Hayman. "So we approached Progress Professional Services to provide us with both development resources and project management. They were able to pull together a project team that was geographically distributed across three organizations and three different cities. And they were able to then pull together not only the development work, but the testing and all the project artifacts to quickly provide us with a system that works."

"Our ESB provides the performance, scalability and continuous availability we need to analyze large quantities of information to make the optimal production decisions."

— Ric Hayman  
Innovation Manager  
with Business  
Information Services



Sonic ESB is the integration backbone for the CSIRO software and other applications used by Pernod Ricard Pacific. Capacity planning and operational coordination start many months before the harvest, so Pernod Richard Pacific's systems must integrate data from multiple sources. The company was faced with integrating data from its viticulture system with field data captured via PDAs and grape data from its automated sampling system.

"The service-based framework enabled us to bring different systems, different data and data formats, and different data protocols together to add value," said Hayman. "It also allowed us to let independent providers of services and data remain independent of one another and to be loosely coupled. We can add them to, or remove them from, the ESB without disturbing other parts of the backbone."

### **MANAGING GRAPE INTAKE LOGISTICS**

Growers, harvesters, carriers, winery staff, and viticulturists manage and execute the intake of grapes into wineries during vintage. Vintage is the harvest season for wine grapes and, for Orlando Wines, it usually spans late January to early May. Orlando Wines' grape-intake supply network is large and complex. A grape supply of over 150,000 tons is made up of 37 varieties that are sourced from dozens of distinct winegrowing areas and every major Australian winemaking zone.

The bulk of this tonnage is from vineyards not owned by Orlando Wines. More than 500 growers have supply contracts with the company, and just over 3,100 individual harvest units (blocks) are managed by its viticulturists and logistics planners. The harvest on a block requires vineyard, winery, transport, and harvesting resources to be aligned in space and time. In total, Orlando Wines deals with about 600 sub-contractors who provide growing, harvesting, and/or transport services over the span of vintage.

"Our planning process is extremely interactive, and it requires the availability of a huge amount of information in order to work out the best time to pick the grapes and start the supply chain process into our facilities," said Hayman. "Our ESB provides the performance, scalability and continuous availability we need to analyze large quantities of information to make the optimal production decisions. With SOA, we can connect multiple technologies across multiple platforms to orchestrate a complicated planning process. Our ESB allows us to reuse services and to add new services over time."

"Each vintage intake is worth hundreds of millions of dollars," said Hayman. And although it's not easy to identify specific direct return on the investment in the systems, any contribution to the reduction loss of the value of the grapes is worth potentially millions of dollars per year. Some of the early benefits we've seen almost immediately are better throughput of trucks at wineries because they don't have to wait for a crusher to become available to process the grapes. We did not need to start a second crusher because we can more efficiently utilize a single crusher. Our intake is much better planned. We're also seeing much easier access to independent contractors like transporters and harvesters. And this has improved the efficiency of the grape intake."

“The production of wine occurs in a rural setting,” stated Dunstall. “However, the pressures and the time constraints that apply to the winemaking industry are just as strong as they are in any other industry. And the additional complication that winemakers face is that weather patterns bring uncertainties and variability. Getting the right data to the right people at the right time allows them to make the best possible decisions, and Sonic ESB provides the integration necessary to bring together vast amounts of information to enhance decision making.”

Sonic ESB has provided major advantages to Orlando Wines and Pernod Ricard Pacific. Each element of the CSIRO software is deployed as a service, with direct connectivity to all other ESB-enabled applications and data sources. Executives can gain easy access to standard services—such as databases and data transformation services—and the flexible and reconfigurable assembly of multiple services supports complex workflows for logistics and viticulture management.

According to Dunstall, “The message reading and guaranteed message delivery features of Sonic ESB are very important because they allowed CSIRO, Pernod Ricard Pacific, and Progress Software to design a system in which the real-world business processes were closely matched by the computational workflows. And there is no overhead dealing with contingencies in the data that may have otherwise existed.”

The next vintage will see Orlando Wines making use of the full capability of its new ESB for the first time. For example, it will be possible for Orlando Wines to orchestrate CSIRO software, data sources, and data translation services to respond to requests for customized grape maturity information and logistics plans from each of its 600 subcontractors. A grower communications portal known as GrapeWeb is one of the intended endpoints of this new logistics-oriented information stream. The XML-based format of data on the ESB also enables delivery to a range of clients—including mobile devices—to further improve productivity.

“Sonic ESB allows us to more efficiently manage supply chain and logistical operations, and it allows us to integrate multiple data sources to improve our decision making,” said Hayman. “Our ESB allows us to achieve results far more quickly and flexibly than would otherwise be possible.”

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## **ABOUT PROGRESS SOFTWARE**

Progress Software Corporation (NASDAQ: PRGS) provides application infrastructure software for the development, deployment, integration and management of business applications. Our goal is to maximize the benefits of information technology while minimizing its complexity and total cost of ownership.

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