



## HP and Opsol Integrators Inc.

Intelligent payment routing for ATM and POS



### Flexible, scalable routing in a robust payment infrastructure on one of the world's most reliable servers

#### Opsol OmniDirector

In today's ever increasingly competitive markets, the ability to respond to customer requirements in a rapid and cost-effective manner has led to companies reassessing the ability of their existing infrastructures. In the payments industry, existing infrastructure is particularly important. Financial institutions need to adapt their systems to provide better customer service levels without disrupting existing service or adding more costs.

To help meet this challenge, Opsol, working with HP, has developed an intelligent transaction routing capability that can handle thousands of transactions per second in a payments infrastructure. This set of code is called the Opsol OmniDirector, and we have written it to exploit the performance of an HP Integrity Nonstop server—fault tolerance, scalability and unparalleled

availability, extrapolated to the highest industrial requirements.

OmniDirector is the core transactional middleware of Opsol's online transaction processing (OLTP) suite of products OmniPayments and OmniHub. OmniPayments is a full function payments engine and OmniHub provides a set of business services, such as single customer view, that add significant value to your payments environment.

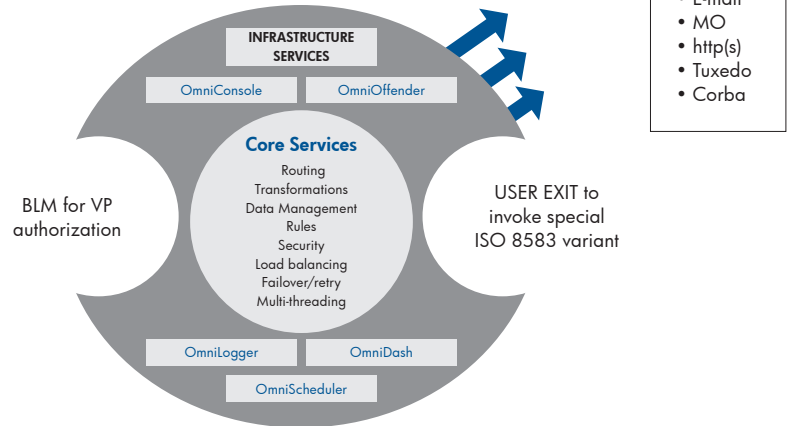
#### An alternative to ACI's XPNet

Among the middleware offerings for the OLTP world, XPNet from ACI Worldwide has been used mainly along with the Base24 product line to manage ATMs and Point of Sale (POS) devices that handle a number of financial transactions.

Similarly, the Opsol OmniDirector capability provides the ability to flexibly and reliably route transactions in a payments infrastructure. As such, it provides an ideal alternative to the XPNet product at the heart of a financial institutions payments network.



The following picture shows OmniDirector components and an ISO8583 BLM to the interchange switch.



OmniPayments, from Opsol, is an alternative to ACI's Base24 payments product. It is a comprehensive solution for financial institutions, retailers and switch processors to acquire, authenticate, route, switch and authorize financial transactions across multiple input channels such as ATMs, POS and kiosks. OmniPayments uses OmniDirector as its middleware core infrastructure.

#### Framework for integrating existing business logic

Institutions have deployed unique business rules over the years. These rules can easily be integrated within OmniDirector.

The services to support this include:

- Core services
- Infrastructure services
- User exits
- Adapters

Core services are the technological framework of infrastructure services that are orchestrated to support the daily operation. In addition, the framework provides for user exits that will enable you to incorporate custom code that should be invoked within the transaction flow. Finally, a robust set of adapters is included to communicate to a number of commercial products available in the market.

This composite set of resources enables you to deploy your existing business logic as services within a rich communications infrastructure.

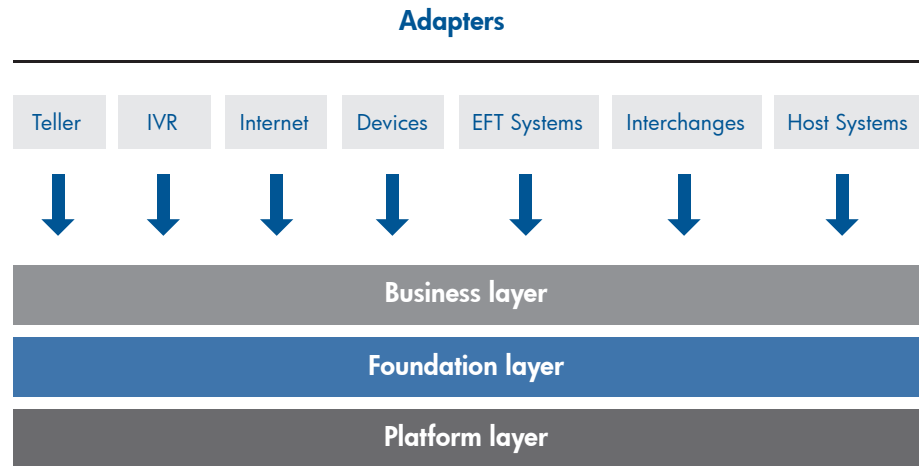
User requirements can be localized and embedded within individual software modules that serve a business purpose. These modules will be referred to within the OmniDirector world as business logic modules (BLMs).

OmniDirector will configure individual BLMs as callable services within a service-oriented architecture (SOA) framework. It serves as the foundation and technological framework needed to support the management of BLMs.

#### OmniDirector implementation approach

HP and Opsol work together to provide a straightforward migration from an existing infrastructure. This flexible approach, tailored to meet specific customer needs, includes the following aspects:

- Collection of interface definitions
- Measurement of peak throughput requirements
- Proof of concept
- Staged migration of functions
- In-depth QA testing
- Managed cut-over process



### Architecture

OmniDirector has been created as a SOA-compliant infrastructure that can deliver business and technology services, while providing a number of infrastructure services needed to support the operation.

### Key capabilities

OmniDirector was conceived as an interaction manager that will consume inputs from all customer touch points to accomplish the integration of all delivery channels for any type of institution, e.g. banks, governments, retailers or switch processors. This driver will also integrate with information from enterprise applications to achieve a customer-centric view, which enables you to consistently treat your customer base across all delivery channels.

OmniDirector supports flexible document interchange between applications. A rich range of adapters for data, message and transaction parsing, as well as rules engines and data transformation tools, are readily available. It supports a wide range of industry-standard communication protocols.

OmniDirector is used as middleware between two different systems providing industry-standard interfaces and supporting various message protocol like SOAP/XML, HTTP, ISO8583 and ANSI. It can support standard interfaces like TCPIP sockets, Receive, Tuxedo, CORBA and MQ. Support for different TCPIP stacks for load balancing on outbound connections is available. Support for connection queuing on the inbound side is also available.

OmniDirector can be used as a service publisher, as well as a service consumer. OmniDirector can publish the SOA service itself and can consume the multiple SOA services.

The use of OmniDirector enables you to develop software components that create flexible business services, and allow users to quickly develop and deploy new products, and deliver enhanced customer services. The components are organized to provide the required business services. Each business component performs a specific type of processing (i.e. authorization or routing) or controls a specific part of the file system (e.g., account or customer).

### Business deliverables

OmniDirector was designed to fulfill the following business requirements:

- Provide adapters or connections to different business processes
- Provide support for multiple message formats
- Provide efficient transformation of data
- Provide encryption/decryption capabilities
- Provide intelligent rules-based routing based on content of transactions and messages
- Provide rerouting capability for failover
- Provide timeouts for transaction processing
- Provide logging for transaction data
- Provide rules to enrich data and deliver value-added benefits from that data

- Provide scalable, fault-tolerant framework
- Provide scope for customization
- Provide console to manage the environment
- Provide adapters to synchronize data with host system in batch and real time
- Provide stand-in capability for off-hub functions
- Perform various checks on the request type against supported transactions

#### **Operating systems supported**

To provide always-on availability in our round-the-clock marketplace, our applications are optimized for HP Integrity NonStop servers—the gold standard for business continuity. Known for running the world's most demanding enterprise applications, HP Integrity NonStop system software complements the open, parallel architecture of HP Integrity NonStop servers, providing highly reliable, scalable computing within an open systems environment.

#### **Service and support**

Working with HP services, we provide you with a complete portfolio of services tailored to your unique business and IT needs. We leverage the proven methodologies and expertise of over 65,000 HP services professionals around the world to help your company design, build, integrate, manage and evolve an infrastructure that lets you respond to business changes easily and cost-effectively.

## **Other benefits of the solution**

#### **Scalability**

OmniDirector's architecture isolates business input and output components. New input and output interfaces can be easily plugged-in without affecting the running system. New service providers can be added easily.

#### **Availability**

Running on HP Integrity NonStop servers ensures 24x7 availability, high scalability and fault-tolerance.

#### **Performance**

OmniDirector is optimized for the best performance in the following ways:

- Efficient load balancing is supported.
- It intelligently routes the transaction for optimum performance.
- Business rules are used to define the priority level.
- Exceptions and timeouts are handled by retrying the transaction within business constraints.
- Framework provides persistent connections, removing reconnect time.

#### **Working together to drive success**

By combining standards-based and modular technologies with our leading-edge applications and a full portfolio of services, you gain a powerful, flexible solution that meets your business needs today—and adapts dynamically as those needs change. That's the foundation for building an agile, responsive enterprise to drive better business outcomes for your long term success.

## **Technology for better business outcomes**

To learn more, visit [www.hp.com](http://www.hp.com)  
[www.opsol.com](http://www.opsol.com)

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