



Introducing OLS.Switch

On-Line Strategies ('OLS') is the payment systems supplier that corporate IT executives and savvy application owners can trust 24x7x365. We have a decade-plus track record of providing production support for Fortune 1000 mission-critical payment systems. Using 'best practices' collected from hundreds of installations, we developed a new payment systems engine called 'OLS.Switch.'

You can use OLS.Switch to:

- Replace your current transaction processing environment (issuer or acquirer).
- Work in conjunction with your current transaction processing environment to add new services while reducing development costs.
- Transition from an outsourced to an 'in-sourced' solution.
- Install an in-house payment processing solution for the first time.

With each of these strategies, OLS.Switch can reduce your overall cost of operations, resulting in a rapid 'mean-time to payback' on your investment. For newcomers, part of that payback is being able to focus your efforts on your vision and your solution rather than worrying about the details of the underlying technology.

The payment systems marketplace is quickly moving away from outdated 'legacy' OLTP environments. By basing OLS.Switch on the Java 'virtual machine' environment, OLS customers can choose the operating platform that best suits their enterprise's capabilities.

Envisioning OLS.Switch at Work for You

How do you deploy OLS.Switch to your advantage? The only limit is your imagination. For any non-cash payment alternative you can conceive to help your business, OLS.Switch can turn your strategic thoughts into reality.

If your organization plays one of the following roles, there's a way for OLS.Switch to help you seize a strategic advantage:

- Transaction acquirer
- Card issuer
- Remittance processor
- Payroll provider
- Financial exchange
- Banking service provider
- Independent Service Organization ("ISO")
- Check acceptance service provider
- Check guarantee service provider
- Pharmacy (prescription fulfillment)
- Pharmacy (retail)
- Gasoline Marketer

And that's just a partial list. Any organization offering electronic, non-cash payment alternatives to its clients can benefit from OLS.Switch.

Offering You Connections to the World

When you envision your system, you dream of widespread acceptance by the community you choose to serve. If you're issuing cards that means having them accepted at ATMs and retail locations around the world. If you're accepting cards at your own locations, that means offering a wide range of payment options.

To make this dream a reality, OLS.Switch needs to 'talk' system-to-system to external parties. You'll discover that the world's leading financial payment exchanges and networks have settled on the ISO8583 standard as their shared language for communication. So, it's a very common occurrence for our clients to have to configure and certify one or more of these interfaces to meet their 'go live' commitments.

Luckily for our clients, OLS.Switch facilitates these important activities by leveraging the strength of Java 2



Enterprise Edition ('J2EE'), a Java platform designed for the mainframe-scale computing tasks typical of large enterprises. What the J2EE backbone does for OLS clients is to simplify application development and distributed implementation. As a result, OLS.Switch is developed and deployed as standardized, reusable modular components. This approach greatly reduces the need for training on low-level system internals.

Of course, establishing these connections is not without effort. The ISO8583 specification is complex and exacting. And, it's renowned for its adaptability and extensibility, meaning every financial payment exchange can put its own unique twist on it. As a result, part of every OLS project includes: determining the unique aspects of a proposed interface; configuring and (if necessary) coding to handle those features; and performing a formal certification.

Processing the Transactions You Control

With the local transaction processing facilities of OLS.Switch, your customer- and administrative-facing operations will function with the accuracy and speed of an organization committed to top-tier customer service. We support a complete set of local transactions, allowing our clients to perform such real-time operations as:

- Issue new cards
- Assign new customers to cards on file (customers must subsequently provide an assigned activation code and, optionally, their date of birth to activate)
- Activate new cards – can be performed by your customers via a Voice Response Unit ('VRU')
- Assign new PIN or subsequently change it
- Change certain card account information, e.g., card status, activation code, etc.
- Allow customer to fund card from an external source
- Determine current balance of a card
- Perform balance adjustment on a card
- Transfer balance between two cards
- Do 'hot card' blocking
- Reset a card after excessive invalid PIN tries
- Set card profile to allow only local access, i.e., prohibit network access
- Integrate retail store operations
- Validate customer PINs (option if customer not validated by client's front-end interface)
- Provide transaction history information to administrators and customers
- Implement your proprietary transaction fee program

The good news about OLS.Switch's local transaction interface is that your team members don't need to be trained in the intricacies of our system internals or learn an esoteric technology standard. Everything is done in industry-standard XML. We incorporate the feedback of our clients. You gain from their experience.

Our implementation teams know from previous successful projects how to guide you through a winning integration effort. You will find that our interface is intuitive, well-documented and 'mainstream' to the extent that our clients are able to complete their efforts using their current employees. This simplicity is another aspect of our commitment to reducing the mean time to payback associated with OLS.Switch.



Featuring a Flexible Authorization Engine

At the heart of OLS.Switch is our flexible Authorization Engine ('AuthEng'). This centerpiece feature allows our clients to implement their well-considered business models in an intuitive fashion. OLS.Switch contains *everything you need* to host card authorization and electronic transaction capture. *AuthEng behaves as you instruct it*, deriving its decision making via rules, facts and assertions that it assembles using limits, fees and rules that you set in accordance with your chosen business model. For example, using the fees options (see list below) to create a fee-generation revenue stream using the fees parameters. The following lists present a sampling of the many control parameters at your disposal:

Limits

- Maximum allowable balance on card
- Minimum allowable balance on card
- Maximum invalid PIN attempts allowed
- Maximum amount (and/or number) of total daily ATM and/or point-of-sale ('POS') transactions
- Maximum amount of total daily Refund transactions (a key fraud deterrent)

Fees

- Fee for approved ATM/POS purchases at US locations
- Fee for approved balance inquiries at US locations
- Similar parameters for international locations
- Similar parameters for cardholder-caused denied transactions

AuthEng interacts with a Hardware Security Module ('HSM'), providing our clients with a level of data security and encryption that will pass the strict audit requirements of Visa, MasterCard and the regional debit networks. We handle such evolving data encryption standards as Triple DES and Derived Unique Key per Transaction ('DUKPT').

AuthEng is built on a solid technical foundation, which provides for transactional integrity, guaranteed logging, consideration for throughput, and capacity for growth. The architecture of AuthEng is representative of OLS.Switch as a whole, in that we've given careful consideration to real-life usage.

For example, if you use a card 2,000 times within the same operating cycle (not out of line for a payroll operation), OLS.Switch is designed to give you the same response time on the 2,000th transaction as the first one.

We believe that, too often, users of enterprise systems are forced to modify their business model or operations to fit into the inherent limitations of their chosen software. Our goal with OLS.Switch is to let business owners make decisions unencumbered by technology and architecture considerations.

Handling the 24-Hour Operating Cycle

OLS' competitive advantage is the strength and vision that springs from our operational backgrounds. The OLS team has spent significant periods of time immersed in mission-critical, financial OLTP operating environments. That experience means we know the enterprise-wide pressures and end-to-end processing needs that our clients face every day.

That's why OLS.Switch is more than simply an online tool. We've designed our solution with both online and offline components to handle the *24-Hour Operating Cycle*. Our offline system – the Master of Batch Operations ('MOBO') – provides our clients with an extra level of checks and balances to ensure the integrity of your customers' account information.

At the end of each business day, MOBO scans OLS.Switch's transaction log file and extracts all 'balance-affecting' items for reconciliation and back office settlement. We provide you with our MOBO Technical Publication describing our reconciliation ('recon') file format. Using this document, our clients have easily integrated the MOBO Recon file into their back office operations.

Next, MOBO performs what is known as a Refresh operation. In this step, we update the card balances maintained by OLS.Switch with the day's confirmed transaction activity. By using this approach, MOBO



acts as an Overseer/Watchdog and safeguards account balances from getting out of alignment.

Perhaps you have other, non-integrated operations that affect the balance of your card accounts. We've got that covered as well: the MOBO Technical Publication describes how you can create an 'enterprise refresh' file to update OLS.Switch with *all* balance-affecting activity performed across your entire enterprise.

Integrating Into Your Operations

Beyond the 24-Hour Operating Cycle, the OLS team knows from experience that you envision a solution that provides you with operational visibility and acceptance throughout your enterprise. OLS.Switch delivers on these requirements by being more than simply a core processing engine. We provide an evolving set of value-added functionality that acts as a concentric ring of capabilities around OLS.Switch's core.

For example, we recognize that your administrators and customer service representatives need visibility into transaction history, card databases and other important information stores housed by OLS.Switch. But as *transactions*, these activities could be consumptive and impact real-time transaction processing. So, to perform these ad-hoc, query-based tasks, we've implemented a series of stored procedures that you can integrate into your service applications. Available procedures include:

- Get Card History – Retrieves all transactions for a single card beginning at a specified Transaction ID.
- Get All History – Retrieves all transactions for all cards beginning at a specified Transaction ID.
- Get Programs – Retrieves all Program data (where OLS.Switch stores limit, fee and rule parameters).
- Get Cards – Retrieves all cards (or all cards related to a specified Program ID).

Moreover, to further aid rapid integration into your operations, we provide you with code samples for each of the queries. And, OLS.Switch logs each query that is executed to a separate "query database." This approach allows you and your team to troubleshoot operations and – if you are running OLS.Switch on someone else's behalf – implement a per-query fee schedule.

Of course, knowledgeable users and administrators in your organization may feel constrained by the limitations of these stored procedures. No problem there: all data used by OLS.Switch is maintained in a SQL database of your choice. You choose the database (e.g., MySQL, Microsoft SQL Server, IBM DB2, Oracle, etc.) that best leverages the power and capabilities of your workforce. We encourage our clients to embrace the data we collect by using the tools they are familiar with to design reports, build user interfaces and mine transaction data for new revenue opportunities and growth ideas.

Getting You to Production

At OLS, we stay resolutely focused on maximizing the "*mean time to-payback*" of your IT investments. The one truism about calculating payback is that the benefits don't start accruing until you go into production. Our project management leadership will help you set and achieve 'go-live' milestones. We help balance your understandable itchiness to get to production status with a focus on the importance of comprehensive testing and a sensible implementation strategy.

OLS' testing, certification and 'go-live' methods are built from the 'best practices' gathered from hundreds of implementations performed over the past decades by our team of experts. Hallmarks of our approach include:

- We hold a comprehensive pre-project planning meeting to allow all relevant project stakeholders to discuss their needs and expectations.
- We provide you access to a production-class server, dedicated solely to your testing activities, giving you an accurate feel for production performance.
- We enable high-speed, Internet-based connectivity to our test environment so you can begin

testing prior to the installation of dedicated circuits.

- Prior to user application testing, we set up an 'auto-responder' facility to validate each other's XML messages. This approach allows us to iron out any misunderstandings in the message specifications before true testing begins.
- We configure OLS.Switch during functionality testing to auto-email real-time encapsulations of every transaction attempt to our technicians. This facility allows us to spot problems immediately and offer advice.
- We lead the certification efforts required to interoperate OLS.Switch with your financial networks of choice (e.g., Visa, MasterCard, STAR System, etc.).
- We have a network transaction 'injection facility' which allows us to simulate network activity independent of requiring active participation from your financial partners, since coordination of schedules often proves problematic.
- We leave our testing facilities open 24x7 to account for time zone differences, geographically dispersed workforces, off-hours testing and the fragmented schedule of today's IT professional.
- We put OLS' MOBO facility in place immediately, even during the test period, to work behind the scenes, providing a realistic 24-Hour Operating Cycle.
- We insist on volume/stress testing as an integral part of a comprehensive test plan. Our philosophy is that no OLS client should go live without a firm understanding of the threshold point of their system.
- When you go live, we obsessively monitor system performance and behavior and look to address obvious issues before widespread usage begins.

Providing 24x7x365 Support

At OLS, we know the pressures you face as the manager of a mission-critical operation. To help you and to be there when you need us, OLS.Switch comes bundled with 24x7x365 Production Support, which includes:

- Product updates and fixes
- New releases for all the products covered in your support agreement
- Critical fix alerts
- Personalized support for questions and troubleshooting on the installation, customization, operation, and integration of OLS products
- Quick response times: one hour for critical (system down) issues; four business hours for serious issues; 24 business hours for other issues
- 24x7 coverage for critical issues via a toll-free line

Contact Information

On-Line Strategies, Inc.
7920 Bellline Road
Suite #740
Dallas, TX 75254
214.466.1000
866.237.4900
214.466.1012 (fax)
Info@olsdallas.com
<http://www.olsdallas.com>