# Commercial Version of Database of Managed Objects (DMO)

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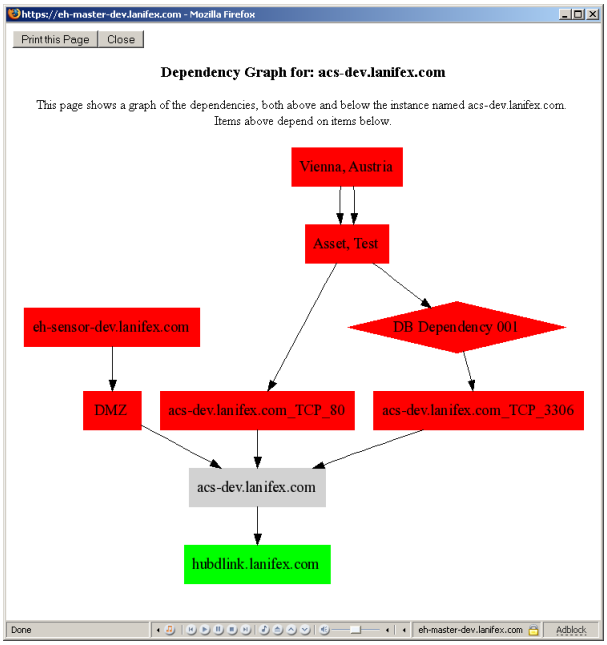
## Introduction

Many companies around the world have downloaded and are using the Lanifex (LFX) DMO for a wide variety of tasks, from Risk Assessment through to Network Node Inventory. For those companies, we are pleased to outline the commercial support available, and the interesting add-on products which significantly enhance DMO's capabilities. This paper is a brief overview of the differences between the Open Source and Commercial versions of DMO, and a description of the support offered by CSO Lanifex GmbH, its developers.

## What is the LFX/DMO?




The Lanifex Database of Managed Objects (LFX/DMO) is a general purpose Web-based application, which is typically used to organize structured information, especially meta-information about Objects within an IT Data Center. In this context, Objects refers to any type of physical object, such as a node, host, router, switch, firewall, UPS, etc, plus any intangible collection of objects, such as "Payroll System", "Web Application Framework", "Back-end Financial Application", etc.

DMO is particularly useful when documenting Composite Applications, as part of a SOA (Service-Oriented Architecture, see http://webservices.xml.com/pub/a/ws/2003/09/30/soa.html.) Such applications often involve many distinct components, which however are linked together by a network of complex dependencies. Often these relationships are hierarchical, which may be easily modeled in DMO, but they can also have more complex links between different parts of a tree, which DMO can also capture.

Information is entered into the DMO through its Web interface, or imported via a Wizard, or collected through some automated process (such as network discovery.) Once the basic information is collected, the administrators can then begin to add value by modeling the interconnections, especially the operational dependencies, ownerships, responsibilities, and simple things like uploading documents describing the Objects, or adding links to where additional information may be found.

## Comparison of Open Source versus Commercial DMO

The following table provides a comparison of the Open Source version of DMO (which is available from http://dmo.sourceforge.net) with the commercial version which is distributed directly by CSO Lanifex GmbH and its partners and resellers. Note that Commercial Support is available for both versions; for the Open Source version the support costs are provided below, while for the commercial version the annual support contract is based on a fixed 15% of the retail license costs.

| *Feature or Capability* | *Open Source LFX/DMO* | *Commercial DMO or LFX/Event Horizon* |
|---|---|---|
| Ability to import information using SQL, CSV, XML | Yes | Yes |
| Full source code available, with right to customize | Yes | Yes |
| Modeling of unlimited number of nodes (Objects) in hierarchical structure | Yes | Yes |
| Automated Discovery of Nodes via network scanning | No | Yes, requires EH |
| Automated collection of Vulnerability information for Nodes | No | Yes, requires EH |
| Ability to integrate Events into Security Incident Handling workflow, with email and SMS notification and Escalation controls | No | Yes, requires EH |
| Attachment of unlimited number of files to any node | Yes | Yes |
| Definition of port policy profiles, with comparison of results of host discovery allowing notification of changes in the network landscape | Partial; policies may be defined but are not checked | Yes, requires EH |
| Collection of information on hosts via SNMP to attach to nodes (instances) | No | Yes, requires EH |
| Collection of time-series data (using rrdtool) to integrate with alerts based on upper/lower thresholds | No | Yes, requires EH |
| Generation of reports in range of formats, including HTML, CSV, PDF and XML | Yes | Yes |
| Display and printing of graphs showing dependencies between instances | Yes | Yes |
| Generation of comprehensive reports on ISO17799 compliance | Outline of ISO17799 is provided, but no reports | Yes, requires PCM |
| Crisis Management support (generating CD or DVD of DMO in LiveCD mode, with support for crisis logging) | No | Yes, requires LFX Crisis Manager |
| Highly granular access control system, with user/group support | Yes, internal only | Yes, with LDAP support for external groups as well |
| Automated collection of Logfile information, with | No | Yes, requires EH |

| *Feature or Capability* | *Open Source LFX/DMO* | *Commercial DMO or LFX/Event Horizon* |
|---|---|---|
| processing and integration with DMO objects | | |
| Full ISO17799:2000 and 2005 Security Policies, with Controls in English and German | No, outline only | Yes, requires PCM |
| Full commercial support available | Yes, fixed price contract | Yes, 15% of license fees |
| | | |

## Examples of LFX/DMO in action

This section describes some simple case studies of how the DMO may be used.

1) **Operational Security Monitoring**
   DMO is the heart of the Event Horizon system in a major European bank, where it collects security-related information through remote monitoring sensors (including Data Security and Physical Security data such as fire or intrusion alarms). The DMO allows definition of policies, which can then be automatically checked, and any violations will result in an event being logged, with optional incident generation and notification via email and SMS messages.
2) **Risk Assessment and Gap Analysis**
   DMO is used to collect information on Assets, and their associated Risks. A Risk Tree may be developed, and controls defined to mitigate the risks. The DMO stores all information related to the Risk Assessment, and allows the consultant to easily generate large reports with all the relevant data. As new controls are defined, they may be added to the DMO to ensure complete coverage of all risks.
3) **SOA Documentation Capture**
   When designing a Service Oriented Architecture, simple interfaces (interconnections) are critical to a well-defined set of services. DMO can easily catalog all the services, and specialized Dependency objects can be used to capture details of the interfaces, so that during implementation the Web and DBA teams can easily work together. Later, during operations, the support teams can quickly discover the information they need to resolve complex problems, and find out who is responsible (and with what SLA constraints) for restoring failed components. The DMO's acclaimed dependency graph can allow for simulation of failures of individual components to quickly establish which other services may be affected.
4) **Crisis Management**
   Part of preparing for any crisis consists of collecting all critical information relating to ones information assets, especially to answer the following questions:
   - who is responsible for which parts of a complex system?
   - where are the expected SLA contracts?
   - who should I call when there is an outage during Sunday morning at 4 a.m.?
   - what information do I need to provide to Police or Rescue teams in the event of a major disaster?
   - where can I track a crisis, coordinating actions across many locations with thousands of systems, when the power has failed in my data center?
   The Lanifex Crisis Manager helps to answer the above questions, by collecting all relevant

information into the DMO, which is then written onto a DVD. This DVD becomes part of a Disaster Preparedness Crisis Response Package, and can be booted into any laptop to start immediately accessing critical information when a crisis has been declared. All actions taken in the crisis are then logged on a USB memory stick (for security, as a foreign laptop might be required), which can link them to DMO nodes for later update, and for generation of reports used to perform analysis of how well you responded to the crisis.

5) **Network Penetration Testing**
   As part of its Security Consulting practice, CSO Lanifex GmbH undertakes penetration tests and network audits, which collect hundreds of megabytes of information. All of this data is automatically loaded into the DMO, which is then made available to the end-customer on a CD-ROM, allowing them to review the discovered vulnerabilities and discover unknown services and hosts without having to read through hundreds of pages of results.
6) **Automated Validation of ISO17799 Policy Compliance**
   As a complement to its automated Technical Security Monitoring, companies can also perform monitoring of their Organizational Security status, by measuring compliance with international Security standards such as ISO17799:2005. As part of an Integrated Security Monitoring System (ISMS), or stand-alone, the Lanifex Policy Compliance Manager (LFX/PCM) uses DMO to collect information about Assets and Policies, and combines this with information on who is responsible, which ISO17799 (or COBIT, or other) controls should be used, and based on a calendar it generates reminders to the responsible persons, sending them questionnaires about the state of their compliance with the relevant policies about each asset for which they are responsible. All responses to the questionnaire forms are then forwarded to the Chief Security Officer (CSO), who can then grade them, and develop an overview of the corporation's total compliance level, and quickly identify which departments need increased oversight or audit.

## Integration of DMO with other systems

Due to its open architecture, DMO may easily be integrated with other systems. The type of integration may be simple, such as one-way data transfer (import or export), or may be more complex, such as replication of new Objects from an inventory system, or posting of events into a Trouble Ticket system.

Currently, we are working on (or have tested or completed) integration with the following external systems:

- Computer Associates Security Command Center
- Sourcefire Intrusion Detection Appliances
- NMAP Host Scanner
- Nessus Vulnerability Scanner
- Snort IDS software
- LFX Process Desk (Incident Handling)
- Microsoft Operations Manager (MOM)
- HP OpenView
- IBM Tivoli

If you have an existing Computer or Network Inventory system, based on standard interfaces (such as SQL Server, Oracle, LDAP, etc.) then we can easily integrate it with DMO, or develop an import interface (supported already are SQL, CSV and XML.) Such integration tasks will be covered as part of our Security Consulting services.

## Commercial Support

The DMO is supported by CSO Lanifex GmbH, a company based in Vienna, Austria. Three levels of support contract are available for the standard DMO product:

- Silver Support: Online access to our commercial Bugzilla tracking system for one year, with guaranteed 48 hour initial response during European working days.
- Gold Support: Online access to our commercial Bugzilla tracking system for one year, with guaranteed 24 hour initial response during European working days. Telephone support (up to 20 incidents per year) during European working hours.
- Platinum Support: Online access to our commercial Bugzilla tracking system for one year, with guaranteed 12 hour initial response during European working days. Telephone support (up to 50 incidents per year) during European working hours, with extended coverage (12 hours per day, and 7 days per week.)

Support pricing is based on a licensing model, which is summarized in the table below. Note that contracts are Annual (1 Year), and must be paid in advance. European prices exclude VAT (which should be added for purchase according to your local country rate.)

| *Support Level* | *Price (Euros)* | *Price (US$)* |
|---|---|---|
| Silver | 630 | 612 |
| Gold | 945 | 918 |
| Platinum | 1575 | 1530 |

Note that on-site support is also available, based on the standard consulting rates, plus travel and accommodation expenses.

## DMO Licensing and Costs

The Open Source version of LFX/DMO, and its underlying infrastructure library LFXlib, is released as Open Source with a GNU General Public License v2. See http://www.gnu.org/copyleft/gpl.html for details of this license. The software remains fully under the Copyright of CSO Lanifex GmbH. We permit non-commercial use of the software without any payment of license fees, however we require any commercial user of the DMO software to pay us a license fee for each implementation, and request any third-party that wishes to sell products based on the DMO to offer us a fixed percentage (5%) of the fees that they charge for DMO-based products.

As we recognize economic conditions are different in various countries, we use The Economist magazine's "Big Mac Index." Thus, the one-time license fee for DMO is 200 Big Macs, which may be converted based on the local price, as shown in The Economist at the following URL: http://www.economist.com/markets/Bigmac/Index.cfm

Note that for customers within the European Union, we are required to add Value Added Tax (VAT), which in Austria consists of 20%. Alternatively, for customers outside Austria we can deduct this Tax if the customer can provide a valid VAT Tax ID on an Order Form.

We are pleased to provide commercial *Pro Forma* Invoices based on the results of your local Big Mac calculation. (Our Accountants unfortunately prefer hard currency, rather than restaurant hamburgers. We regret that we cannot accept actual hamburgers for the payment of this license fee, nor gift tokens.) Simply send us the amount you have calculated via e-mail, and we will send you a PDF with the *Pro Forma* invoice, payment for which can then be transferred to our Bank via

traditional electronic funds transfer mechanisms.

Let's take for example a standard price for a Big Mac in the USA of $3.06 (this is actually an average for N.Y., Chicago, San Francisco and Atlanta.) Multiply by 200, and you get the license fee cost:

| | |
|---|---|
| One Time DMO License Fee ..... | US$ 612 |

For our customers in Europe, we take the European weighted average of $3.58, convert to Euros (rate 1.17) to get the Euro license fee cost:

| | |
|---|---|
| One Time DMO License Fee (Euro) .... | EUR 630 |
| VAT (MwSt @ 20%) ..... | EUR 126 |
| Total Fee ..... | EUR 756 |

Some additional notes may be useful:

- All customers receive 100% of the source code of our products (including both GPL and Proprietary);
- Only those parts of our products which have been licensed under the GNU Public License (GPL) may be further distributed by our customers;
- Customers may modify the source code and function of our products without restriction, HOWEVER support will only be continued with customers who contribute those modifications back to us;
- Customers may develop their own extensions and new features to the products, and are under no obligation to license them back to us (unless they wish us to support the new capabilities too, which is at our discretion);
- Customers who wish to buy a support contract are requested to in addition pay for the one-time software license fee, which will be used to continue development of the software;
- The software license fee is per server. There is no additional cost when the DMO is used by 10 or 100 users (although each separate INSTANCE of the DMO may be licensed separately, i.e., if used within the context of an Application Service Provider, with one instance per customer.) The license is indefinite, and does not require renewal, HOWEVER upgrades and bug fixes are typically provided under the support contract;
- Investing in DMO is 100% risk free, because even if our company fails, anyone with access to the source code may continue their own development. Some companies may choose to bring development in-house, or out-source it to a specialist in PHP and Security. This option is available because we believe in contestability of services – we are happy to compete with others in the support and development of the LFX/DMO, because we believe we know it best, and have the required experience and competitive prices.

Please contact CSO Lanifex GmbH for information on pricing for our other products and services.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