



OpenPMF™ 2.0 Model Driven Security

Simplifying security management for a connected world™

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Problem definition

- ▶ Unmanageable IT infrastructure creates security problems
- ▶ Increasing complexity of IT, e.g.
 - ▶ Growing, interconnected distributed systems (also between organizations)
 - ▶ Growing legacy infrastructure
 - ▶ Growing reliability on IT
 - ▶ Growing user requirements (data fusion, information at your fingertips...)
 - ▶ Growing regulatory requirements for accounting and assurance
- ▶ Software:
 - ▶ Point-to-point ad-hoc system integration becomes unmanageable with size
 - ▶ Software reuse hindered by legacy and incompatible technologies
 - ▶ Software engineering is extremely complex because of many "moving targets"
 - ▶ Correctness of system cannot be assured due to complexity and lack of "holistic" understanding
- ▶ Hardware complexity...
- ▶ IT staff are overwhelmed with complexity
 - ▶ Both for security and software in general

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Problem definition (2)

Security complexity causes human errors & vulnerabilities:

- ▶ No idea what policy is enforced because of many underlying security technologies (redundancies, conflicts, omissions etc.)
- ▶ Access policy management and enforcement complex because many different technologies and systems
- ▶ User management in incompatible, large, distributed systems is a challenge (-> single sign-on helps somewhat)
- ▶ Strong security requirements because of information sharing in distributed systems (esp. when cross-organization)
- ▶ Hard to define and maintain consistent policy
- ▶ Hard to define and maintain correct policy
- ▶ Hard to provide evidence for correctness
- ▶ Hard to show that every aspect has been covered by policy
- ▶ Hard to enforce policy consistently
- ▶ Hard to provide level of assurance due to lack of "holistic" understanding of system and security policy

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ObjectSecurity Ltd.

Security policy management + secure information sharing in complex, heterogeneous, networked environments

- ▶ Products & services/consulting/training/support/R&D

Founded 2000 (Cambridge + San Jose, CA), 2 owners, no VC, 3 staff + partners + subcontractors

Sin-out from PhD research at Security Group, Computer Lab, University of Cambridge

World-leading "Model Driven Security"

- ▶ Technology/patents/expertise

Listed vendor on ascending slope of Gartner Hype Cycle


Strategic partners: US/UK/Germany

Many success stories & endorsements



...in-depth technical knowledge and industrial experience in the design and development of secure systems...
 ... Dr. Ramesh Bhanasale, U.S. Naval Research Lab
 ...rapid, one-to-one support from a highly knowledgeable technical specialist...
 ... David Carter-Hibbin, Royal Bank of Scotland
 "...analysis of Service Oriented Architectures by providing a thorough and enlightening overview of the industry's theory and best practice."
 ... Mark O'Neil, QinetiQ

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Model Driven Security

What is it?
Model security requirements at an intuitive, undistorted level of abstraction, and automatically transform them into enforceable security rules.

Why use it? Core Benefits


- Simplifies security policy (e.g. authorization) management in complex, heterogeneous, connected IT environments
- Low-maintenance security management for agile systems (e.g. SOA)
- Improved security (consistency, correctness)
- Increased usability (flexibility, intuitiveness etc.)


Existing Technology:
ObjectSecurity OpenPMF 2.0
first generic model driven security technology in the market
www.openpmf.com

Blog:
www.modeldrivensecurity.org

Gartner Hype Cycle for Information Security 2007, see www.gartner.com for information how to purchase

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Model Driven Security

"Model driven security (MDS) is the tool supported process of modelling security requirements at a high level of abstraction, and using other information sources available about the system (produced by other stakeholders). These inputs, which are expressed in Domain Specific Languages (DSL), are then transformed into enforceable security rules with as little human intervention as possible. MDS explicitly also includes the run-time security management (e.g. entitlements/authorisations), i.e. run-time enforcement of the policy on the protected IT systems, dynamic policy updates and the monitoring of policy violations." – ObjectSecurity, OpenPMF 2.0 vendor

ObjectSecurity's definition, see:
www.modeldrivensecurity.org

<<Gartner also has their own, similar definition, see www.gartner.com article "Model-Driven Security: Enabling a Real-Time, Adaptive Security Infrastructure">

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PATENTS PENDING

Open PMF 2.0

Simplified security management for a connected world™

Customizable, fine-grained, low-maintenance, model driven authorization management. TrustedSOA™ agile SOA security SecureMDA™ policy auto-generation

Specify abstract intent...
Fine-tune enforceable rules...
Monitor compliance...

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PATENTS PENDING

Open PMF 2.0

OpenPMF 2.0 TrustedSOA™
Low-maintenance security management for agile (e.g. SOA) environments

OpenPMF 2.0 SecureMDA™
Security policy auto-generation within the Model Driven Architecture (MDA) software development process

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Services

Studies/papers, training courses/workshops, R&D, design, roadmap consulting, build secure systems, technical support

Unique expertise

- SOA security
 - Security management for agile SOA
 - Selection of security portfolio
- Model driven security
 - World-leader in this emerging field, 5 years of experience
- Authorization management (entitlement management)
 - Also a world-leader, 9 yrs of experience
- Middleware security
 - SOA, Webservices, J2EE, DDS, CORBA/CCM etc.
- Secure information sharing infrastructure
 - Sector specific expertise: ATM, MIL, HS, ITS etc.
- Application layer firewalls

Ensure low maintenance, maximum flexibility, appropriate security

Other products

- SecureMiddleware open source CCM
- SecureMICO open source CORBA
- ObjectWall IOP firewall
- SimulateWorld ATC 4D virtual reality simulation/prototyping/testing system

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Summary

Model Driven Security	ObjectSecurity OpenPMF 2.0	OpenPMF 2.0 Benefits
<p>What is it? Why buy it?</p> <p>Model security requirements at an intuitive, undistorted level of abstraction, and automatically transform them into enforceable security rules.</p> <p>Core Benefits</p> <ul style="list-style-type: none"> Simplifies security policy (e.g. authorization) management in complex, heterogeneous, connected IT environments Low-maintenance security management for agile systems (e.g. SOA) Improved security (consistency, correctness) Increased usability (flexibility, intuitiveness etc.) <p>Existing Applications: ObjectSecurity OpenPMF 2.0 - first generic model driven security technology in the market</p>	<p>OpenPMF 2.0 Overview</p> <p>customizable, fine-grained, low-maintenance, model driven authorization management</p> <p>TrustedSOA™ agile SOA security SecureMDA™ policy auto-generation</p>	<ul style="list-style-type: none"> Most flexible, fine-grained, intuitive policies (incl. governance/compliance) Unique automatic policy generation Most flexible integration - on-demand plug-in development Intuitive, model-based usage No lock-in through modeling standards Low-maintenance security support for agile/ad-hoc/adaptive SOA environments No vendor lock-in No cost burden, no risk Fall-safeness, robustness support of organisational structures Development tool support <p>Opportunities for companies</p> <ul style="list-style-type: none"> Simplify security policy management Improve security Manage security for agile IT environments (e.g. SOA) Seamlessly manage entire IT environment Potential approach for SOA security accreditation

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Object Security

Secure technology

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