

**RSA[®]CONFERENCE
C H I N A 2012
RSA信息安全大会2012**

**THE GREAT CIPHER
MIGHTIER THAN THE SWORD
伟大的密码胜于利剑**



To Enable Trusted Computing In Cloud and Enterprise

吳錦榮 Ryan Wu
Wave Systems Corp.



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Agenda

- About Wave
- Why Trusted Computing
- Trusted Computing Group update and Solutions
- How to enable the TC in Cloud and Enterprise
- Case Study
 - TPM Case: PWC(普华永道)
 - SED Case: A big3 Automaker
 - Consumer Case: To encrypt 微博, Google Plus and Salesforce message/data by TPM

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About Wave

- Over 23 years focused on hardware-based endpoint security
- Wave is the leading trusted computing hardware Independent Software vendor
- Publicly traded on NASDAQ (WAVX) since 1994
- First to provide; Trusted Platform Modules (TPM), Self-Encrypting Drives (SED) encryption and authentication solutions
- Central management of SEDs, TPMs, Bitlocker, Software FDE and platform integrity
- 100+ million copies of Wave client software products shipped in 30+ languages
- 500K+ Enterprise customer seats deployed globally , including G500 customers in various verticals.
- Wave software is currently licensed to Dell, Intel, HP, NEC, Lenovo and Acer
- Founding member of the Trusted Computing Group and Permanent Board Member

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Why Trusted Computing

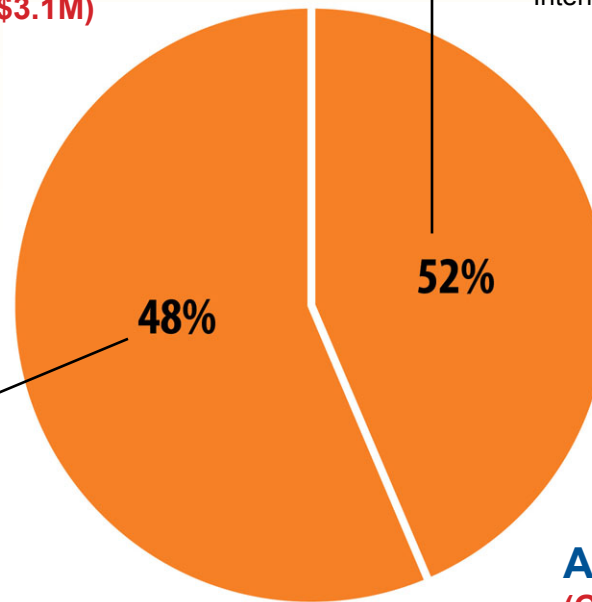
- Over 1 billion breached records have been reported world-wide (Source: Data Breach Investigations Report, Verizon, 2012)
- Business travelers in the U.S., Europe and United Arab Emirates lose or misplace more than 16,000 laptops per week. (Ponemon)
- Approximately 7% of all assigned laptops will be lost or stolen (Ponemon/ Intel)
- 87% think their organizations are at risk of attack via a mobile security lapse. (Deloitte 2011 Poll of US Business Executives)
- Identity fraud increased by 13% as more than 11.6 million adults became victims in the United States (Source: Javelin Strategy & Research: 2012 Identity Fraud Report)
- 50% of businesses have lost sensitive information on USB sticks in the past two years (Source: Ponemon/Kingston 2011)

Why Trusted Computing

Average Incident Cost: \$7.2 million
(Germany - \$4.7M, UK & France - \$3.1M)

Incremental Costs

- Unbudgeted legal, audit and accounting fees
- Notification to customers
- Free or discounted service to customers
- Call center expenses
- Public and investor relations
- Internal investigations



Customer Costs

- Brand damage
- Loss of existing customers
- Recruiting new customers

Average Cost per record: \$214
(Germany - \$191, France - \$136, UK - \$114)

Source: "Global Cost of a Data Breach", Ponemon, 2011



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Simplifying Encryption and Authentication

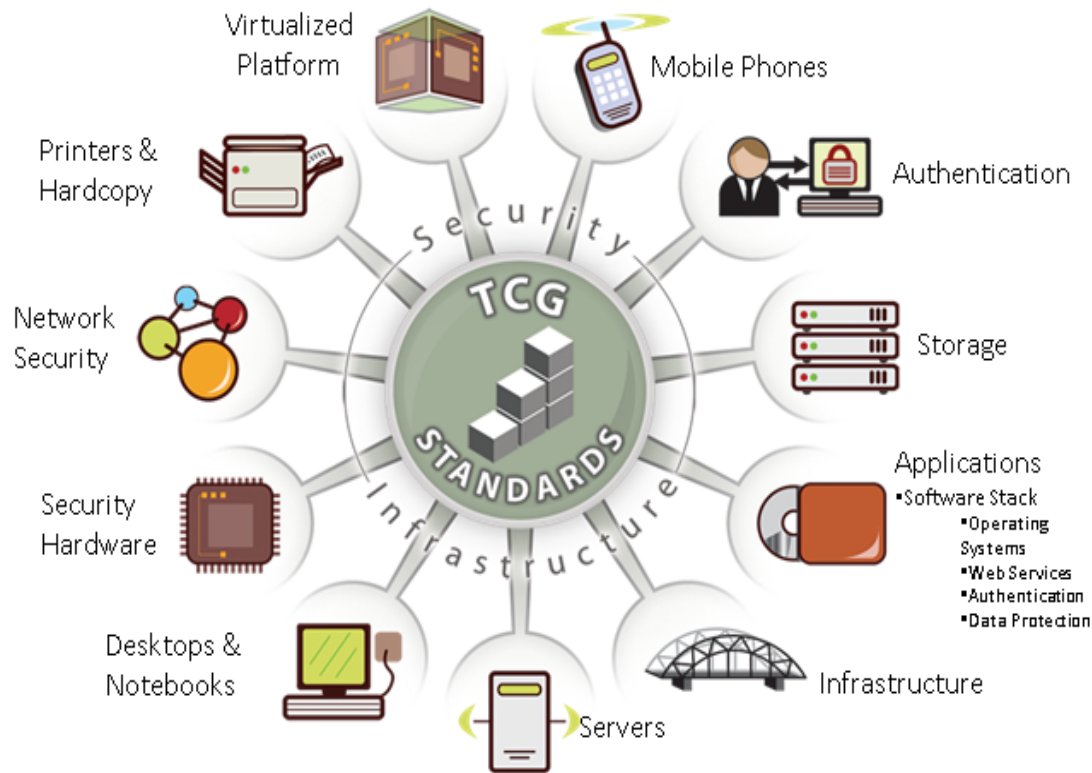
The benefit of TC technology

- Prevent data loss from lost/stolen PCs
- Achieve Safe Harbor against disclosing a data breach
- Demonstrate compliance
- Secure your intellectual property
- Save time and money

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Trusted Computing Group-TCG



The Trusted Computing Group (TCG) is a not-for-profit organization formed to develop, define and promote open, vendor-neutral, industry standards for trusted computing building blocks and software interfaces across multiple platforms.

Trusted Computing solution-TPM



The Trusted Platform Module is a security chip in your computer

It is:

- Already in 600 Mio professional class laptops, desktops and servers
- Based on open Trusted Computing Group standards
- In all major brands computers (e.g. Dell, Lenovo, HP, Toshiba, Sony, Asus etc.)
- Made by major chips manufacturers (Infineon, Atmel, Intel, ST Microelectronics, Broadcom etc.)
- Soldered on the motherboard so it can authenticate the platform (and the user)

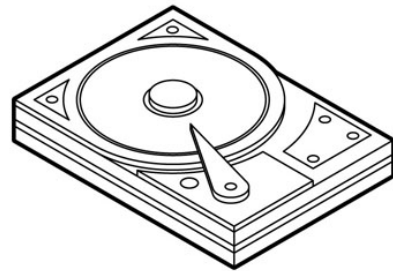
It supports:

- PKI functions (cryptographic key generation and key protection, Digital Signatures)
- Platform Integrity measurement protected data storage (Platform Configuration Registers). Defy Advanced Persistent Threats.
- “Root-of-Trust”. The TPM is protecting encryption keys for data on the harddisk

Trusted Computing solution-TPM

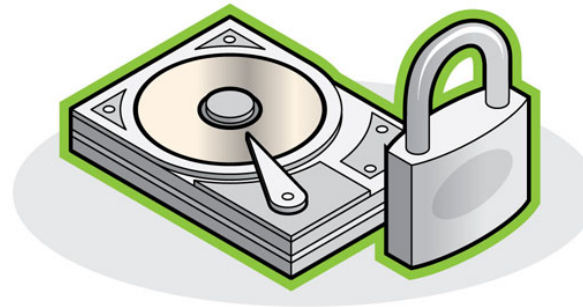
- Global industry standards group
- ARM just rejoined to support mobile TPM
- Established policy for acquisition - USA and UK
- NIST standards leverage TPM: 800-147 & 800-155
- Microsoft requires TPM on all Windows-on-ARM
 - Tablets, phones...
- Microsoft leverages TPM across WIN 8 Corporate and Consumer OS
- TPM on Android and Chrome
- NSA and CESG TPM recommendations

Trusted Computing solution- SED



STANDARD DRIVE

- processor
- memory
- RAM

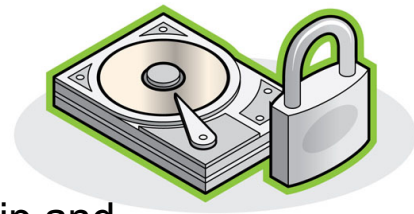


SELF-ENCRYPTING DRIVE

- processor
 - memory
 - RAM
- + Embedded Encryption

Trusted Computing solution-SED

- SEDs have their own processor and RAM – making them impervious to software attack.
- Encryption keys are stored in the drive controller chip and never leave.
- Drive-level verification blocks all read/write functions until the user is verified.
- Always-on AES encryption means all of the data is protected all of the time.
- Zero impact on system and application performance.
- Internal and external, rotating media and solid state industry standard OPAL drives.
- FIPS 140-2 certified.



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What's the Enterprise's challenge today?

Your Challenge

- Compliance
- Data Protection
- Access Control
- Emerging Threats
- Bring Your Own Device (BYOD)

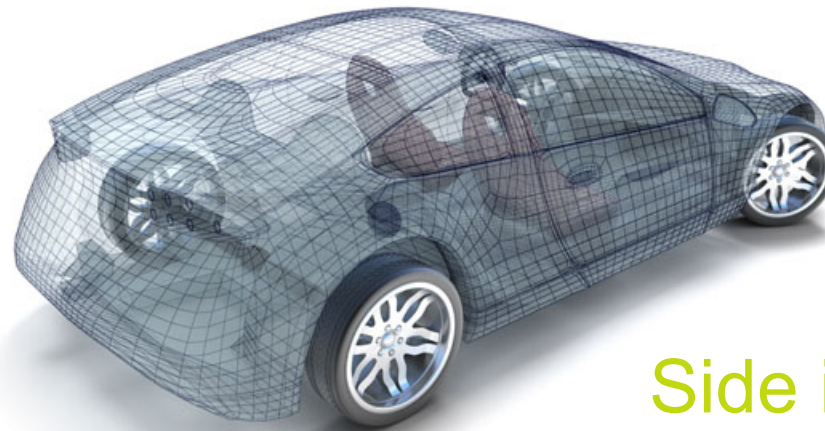
- Sarbanes-Oxley (SOX)
- Health Insurance Portability and Accountability Act (HIPAA)
- Health Information Technology for Economic and Clinical Health Act (HITECH)
- European Union Data Protection Directive
- The UK Data Protection Act (DPA)
- Gramm-Leach-Bliley Act (GLB)
- Basel II
- Payment Card Industry Data Security Standard (PCI DSS)
- Personal Information Protection and Electronic Documents Act (PIPEDA)
- US State Breach Notification (46 States & DC)

Protect your data by build-in devices

Safety belts

Air Bags

Rear Crumple



Side impact bars

Anti-lock breaks



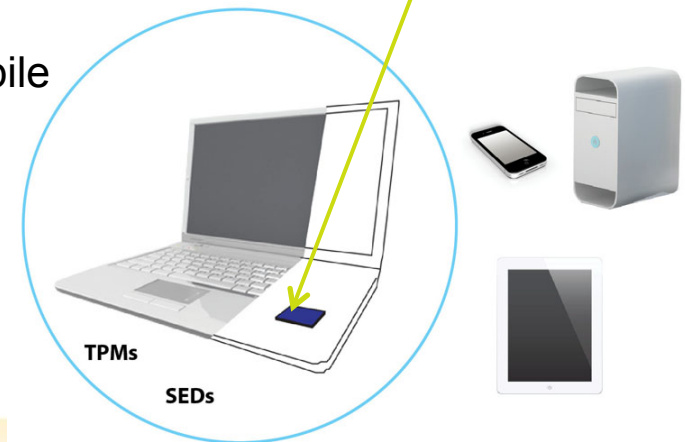
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Simplifying Encryption and Authentication

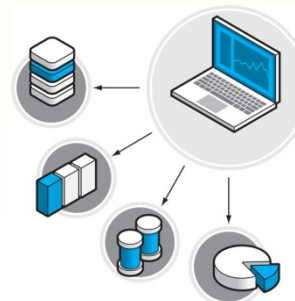
Devices already here, Turn it on!

- Provides real security that works and at a fraction of the cost
- Makes compliance simple and manageable
- Ensures your intellectual property stays safe
- Shields against emerging threats like APTs
- Improves Cloud security by identifying which devices are yours
- Establishes a common security platform for your mobile devices

It's built-into
the devices
you already have



Enabling the TC in Enterprise environment



SELF-ENCRYPTING DRIVE

- Internal Spinner
- SSD
- External USB Drives

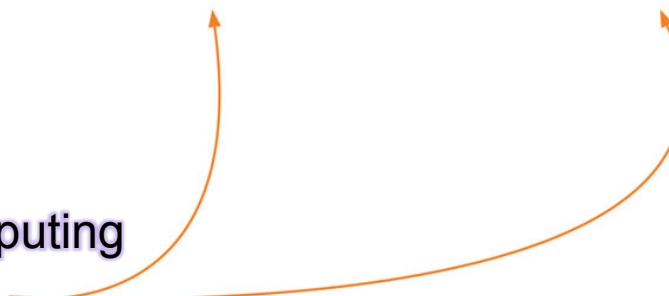
CLIENT

Local management

ENTERPRISE MGMT

Remote management

Trusted Computing
Solution

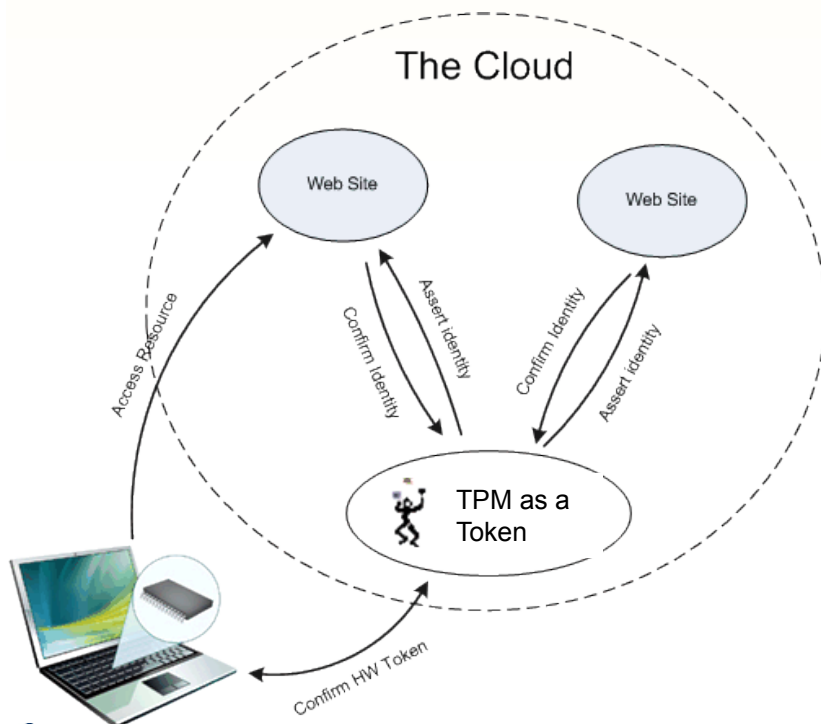


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Simplifying Encryption and Authentication

Enabling the TC in Cloud

- The “Reasons” for machine authentication
 - The User identifies themselves to “A Known Client” (2 Factor Authentication)
 - The identity of the client is the first health measurement to allow service access
 - Investment in corporate client policies is re-used for cloud computing
- Restrict Access to only authorized machines to a Service
 - HR, Finance, SFA
- Use OpenID, SAML, Federation
- Multi-User Machines
 - Allows Identities to log-in to Services
 - Machines are Known Machines
 - Users are Known to Machines



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Case Study- TPM case: PWC(普华永道)

- Security footprint: 150,000 employees, across 850 locations in 142 countries
- Concerned about non-authorized users on the network
- The use of TPM proved successful in mitigating “Jailbreak” risk
- Virtually all of PwC’s computers had TPMs
- TPM-based certificates for VPN and WiFi access
- 85,000 seats into their rollout
- TCG standards can be implemented in small, manageable steps without changing the current infrastructure
- Cost analysis found that smartcards were at least 2X TPM and USB tokens were 3X TPM

Case Study-SED case: A big3 Automaker

- Customer is among the Big 3 Automakers in the United States
- Very complex and global infrastructure.
- Several AD Forests in their environment with and without inter-forest trust relationships.
- 100,000 + end users with various backgrounds and technical skill set.
- Need for a single solution that was suitable for all users
- Attempted to deploy software FDE solution but could only manage to deploy just about 4500 platforms over the course of 3 years.
- Poor user experience with existing software FDE solution.
- Very high drive failure rate with software FDE solution and very high cost of ongoing maintenance.
- The solution needed to be end user hassle free and low cost

Case Study-SED case: A big3 Automaker

- Customer was looking for a best of breed alternate solutions to replace existing software FDE solution.
- Customer was in process of transitioning to a Windows 7 in their environment.
- Had a need for a solution that will work on both 32bit and 64bit Win7 platforms.
- Customer Evaluated several solutions in the market place, Trusted Computing solution was the only solution that had Enterprise class SED management support in the market place with our 3rd generation SED management software shipping at the time.
- Trusted Computing solution build-in with OEM machines was a big factor as they were procuring OEM platforms at the time.

Case Study- Consumer case: The Challenge

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How do you secure and control the use of Social Media in an enterprise environment



Case Study- Consumer case: Encrypt social media message

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Trusted Computing technology that allows you to take control and secure messages posted over Social Media



有什麼新鮮事想告訴大家?

發言請遵守社區公約，還可以輸入65字

[scrambled text]

表情 圖片 視頻 音樂 話題 投票 公開 發佈



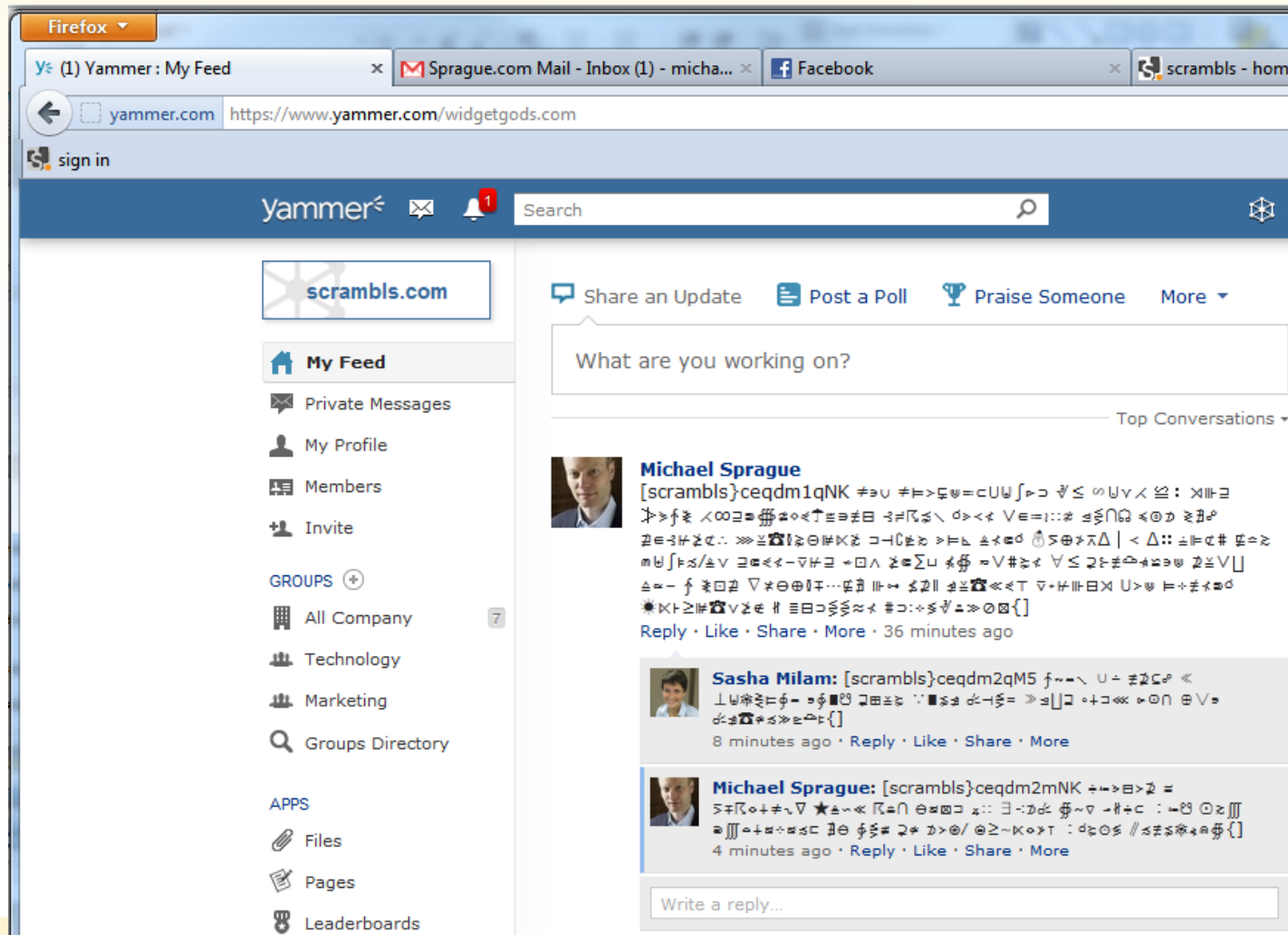
Nick Spekkels [scrambled text]

Like • Comment • Share • 6 days ago

Add Comment

Case Study- Consumer case: What does it look like?

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Case Study- Consumer case: Also web based business applications

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← Back to List: Accounts

Contacts (3) | Open Activities (0) | Activity History (0) | Opportunities (3) | Cases (1) | Partners (0) | Notes & Attachments (0)

Account Detail Edit Delete Sharing

Account Owner	Nick Spekkels Change	Phone	(905) 555-1212
Account Name	Global Media View Hierarchy	Fax	
Parent Account		Website	

Additional Information

Type	Prospect	Employees	14.668
Industry	Media	Annual Revenue	
Description	[scrambled]		

Action	Contact Name	Title	Email	Phone
Edit Del	Jon Amos	Sales Manager	info@salesforce.com	(905) 555-1212
Edit Del	Geoff Minor	President	info@salesforce.com	(415) 555-1212
Edit Del	Carole White	VP Sales	info@salesforce.com	(415) 555-1212

Open Activities New Task New Event [Open Activities Help](#)

No records to display

Activity History Log A Call Mail Merge Send An Email [Activity History Help](#)

No records to display

Opportunities New Opportunity [Opportunities Help](#)

Action	Opportunity Name	Stage	Amount	Close Date
Edit Del	Global Media - 400 Widgets	Id. Decision Makers	€40,000.00	5-4-2010

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