Turning Innovation into Value for Government

Waleed Hosny
Sun Microsystems, Inc.
Agenda

- Sun's Network Computing Vision
- Trends, Challenges in the Government Industry Sector
- State & Local Network Computing Solutions
- Military and Intelligence Network Computing Solutions
- Success Stories
- A Strong Ecosystem
- Summary and Next Steps
Sun Makes the Net Work

- Fortune 125
- Founded 1982
- $12B 2002 Revenue
- $1.9B 2002 R&D
- 36,000 Employees
- 170 Countries
- 12,000 Partners
Network Computing
Attack Cost & Complexity
Accelerate Service Deployment
Unleash Mobility With Security
Network Computer

- Security
- Scalability
- Manageability
- Availability
- Mobility—E2E
- Interoperability
- Affordability
- Performance
- Services/Solutions/Partners
Sun in the Public Services Sector

- Defense
- Government
- Life Sciences
- Healthcare
- Education
Where in Government is Sun?
Solving Government Challenges

Defense
The thought leaders behind Network Centric Warfare

Federal, State & Local Government
Leading the transformation to eGovernment

Intelligence, Public Safety, Homeland Defense
Market leader for multi-tier secure nets w/ Trusted Solaris

Leading Platform Provider to Enterprise & Defense Systems Integrators
Trends & Challenges in the Government Sector
Government Landscape
What Are the Government Challenges?

Resources:
Budget Shortfalls
Increase Focus on Efficiency & eGovernment

Personnel:
eGov/IT Skills are Lagging

Constituents:
Increasing Demands from eCitizens

Regulatory:
Multiple eGovernment & Security Mandates to Implement

Technology:
Improved Security & Cross-Government Collaboration Required
# Government Challenges & Solutions

<table>
<thead>
<tr>
<th>Operational Challenges</th>
<th>Solution Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compliance:</strong></td>
<td>• Automated, transparent policy enforcement</td>
</tr>
<tr>
<td>• Section 508</td>
<td>• Compliance proof management</td>
</tr>
<tr>
<td>• Common Criteria</td>
<td>• Secure role-based operating environment</td>
</tr>
<tr>
<td>• FIPS140, MIL-SPECs to COTS7</td>
<td>• Secure access at multiple security levels</td>
</tr>
<tr>
<td><strong>Collaboration:</strong></td>
<td>• Reuse old PCs as browser-based thin clients</td>
</tr>
<tr>
<td>• Multi-tiered secure AAA</td>
<td>• Smooth transition to mobile and thin clients</td>
</tr>
<tr>
<td>• Mobile access to any device</td>
<td>• Common Operating Picture (COP) through a network centric platform</td>
</tr>
<tr>
<td>• Low TCO Desktops/Rugged Options</td>
<td></td>
</tr>
<tr>
<td><strong>Interoperability:</strong></td>
<td>• Extract &amp; present legacy applications and data</td>
</tr>
<tr>
<td>• Leveraging legacy systems and existing heterogeneous networks</td>
<td>• Connect previously siloed legacy platforms</td>
</tr>
<tr>
<td>• Integrating secure web services</td>
<td>• Write once run new services anywhere</td>
</tr>
<tr>
<td><strong>Management:</strong></td>
<td>• Virtualized computer resources</td>
</tr>
<tr>
<td>• Improve efficiency and utilization of existing networks</td>
<td>• Bring up use rates for existing systems</td>
</tr>
<tr>
<td>• Secure network data exchange</td>
<td>• Single management view and point for heterogeneous environment</td>
</tr>
</tbody>
</table>
Addressing the Challenges: Four Steps to Gov IT Transformation

Phase 1: Presence
Government web site providing general information

Phase 2: Interaction
Web site providing information, forms, search and reference links

Phase 3: Transaction
Ability to complete tasks online via self-service applications to individual government agencies

Phase 4: Transformation
Individualized, role-based services w/ seamless interfaces to agencies at all levels of government
Government Integration –An eCitizen View
Federal and State

Trends in State & Local

- Delivering Citizen-Centric services
- Implementing "component based architecture" concept for reuse of modules
- Modernization and Interoperability of old legacy IT systems
- Information sharing and assurance, disaster recovery and critical information infrastructure protection of current stovepipe systems
Trends in Defense

- Joint Force Planning
- Coalition Forces instead of unilateral actions
- Non-combat usage of military assets
- Move towards COTS and joint forces platforms
- Information age platform integration
Homeland Security/Public Safety

Trends in Homeland Security/Public Safety

- Get the verified right information to the verified right person in realtime!
- Implement intelligence info-sharing across disparate communities through use of multiple-level, compartmentalized secure computing operating environments
Transportation
Health and Hospitals
Environmental Quality
Network Computing for Government
How Sun Can Help
Our Vision of Network Computing in 21st Century Government

Collaboration

Interoperable

Secure Communities for Services on Demand

Management

Compliance
Recommended Architecture
Enabling eGovernment Transformation

- Business
- Citizen on Home Computer
- PDA
- Website
- Government Institution
- Government Agency

Secure but Open Interfaces
Government Services Delivery Example –

Department of Motor Vehicles
Before

Siloed organizations can not efficiently access or share license information.
After

Organizations have real-time, role-based access to core data and related information at all levels.
Government Customer Client Computing Needs

• Lower cost of acquisition & TCO
• Give me an easier to manage desktop
• Help me deal with a mobile workforce
• Save me from the nightmare of patches and security risks
# Sun Desktop Target Customers

## Knowledge Workers
- Level of technology users in between the power user and the transactional worker
- Represents approximately 15-20% of the workforce in a traditional enterprise environment
- Requires broad base of business and productivity applications: mail, calendar, office suite, browser, etc.
- Traditional functions include: sales, marketing, executive management

**Solution:** Madhatter/Sun Ray

## Transactional Workers
- Lowest level of technology workers in the enterprise
- Represents approximately 5% or less of the workforce in a traditional enterprise environment
- Requires minimal base of business and productivity applications: mail, forms, browser, business systems interface (Java), etc.
- Traditional functions include: call center reps, data entry, administrative

**Solution:** Madhatter/Sun Ray

## Power Desktop Users
- Functions include: financial modeling, developer, scientific computing, rendering

**Solution:** Sun Workstations
Enabling Mobility with Security

User Starts Session on Home Sun Ray Server with Smart Card

User Moves Session to New Sun Ray Server with Smart Card

Who Needs a Fixed Office Anymore! Your Session, Phone, and All Your Data Is Anyplace You Are!

User Moving to New SWAN Location

Soft PBX

User Moves Session to New Sun Ray Server with Smart Card

VoIP Soft Phones on Sun Ray Server Replaces the Need for Standard Phones

User Moving to New LAN/WAN Location

Your Session, Phone, and All Your Data Is Anyplace You Are!
Sun Ray Stateless Computing Platform:  
Designed for Robust Security and Optimal TCO

- Deployed in Command & Control as well as Enterprise operations on a global basis
- Smart-card role based access
- Stateless Design eliminates virus attacks
- Reduces system administration by an order of magnitude (1 SA/2,000 Sun Rays vs. 1 SA /200 PCs)
- Annual Power Savings: Over $3M per 25,000 Sun Rays
- Complete New deployments in a day
- Zero cost to move or add services
- Zero annual desktop refresh costs
- OS Upgrade: hours vs. months
- Instant session, never log out
Sun ONE Building Blocks
Service Delivery Platform

Services Creation, Assembly and Deployment
Sun™ ONE Developer Tools for Java™

Applications & Web Services
StarOffice Office Suite, a Sun™ ONE Software Offering
Sun ONE Communications Portfolio

Service Container
Sun™ONE Application Server
Sun™ONE Web Server
Sun ONE Process Manager

Identity & Policy
Sun ONE Management Portfolio

Trusted Solaris™

Solaris™ Operating Environment

Back-End Systems
Service Integration
Sun™ONE Integration Server

Sun™ONE Integration Server, B2B Edition

Service & Delivery
Sun™ ONE Portal Server

Any Device
Gov Plays an Essential Role in a Federated Network Identity System

Government as the Primary Identity Provider in a Federated Circle of Trust
Secure Portal Environment

Core to Role-based Services:

Applications

Services

Information

Messaging

Focus on DoD to Vendor/Supplier Procurement, Asset and Supply Management
Security Is at the Root – It Has to Be....

1980's
Client Server Architecture

1982
Sun Is Born
1st Workstation Includes TCP/IP

Late 1980's
Secure Remote Procedure Call

1990
Trusted Solaris Released
1991
Solaris 2
1992
CMW 1.0
1995
Java
1997
Trusted Solaris 1.2
SunScreen
1998
Trusted Solaris 2.5
1999
Sun Security Practice
1999
Sun/Netscape Alliance
First Sun Security Blueprint
Java 2

2000
Solaris Security Toolkit (JASS)
2001
Sun Co-Founds Liberty Alliance
2002
Sun ONE Platform
iForce Solution for Perimeter Defense
Sun Crypto Accelerator 1000
Sun LX50 VPN/Firewall Appliance
Security Program Office Launched
Trusted Solaris 8
Solaris 9
2003+
Elliptic Curve Cryptography
Trusted Solaris 8 (x86)
Merge of TSol & Sol (Sol 10)
XACML
J2EE 1.4
Project MadHatter
Java Card
The World's Most Widely Deployed Identity Solution

- Building Access
- SunRay Session Mobility Card
- Single Sign-On PKI, x509, SAML
- GSM/3G Cellphone Enabled
- Payment Card...

- 283M deployed (and growing)
- U.S. Department of Defense: 4.3M users
- Taiwan Health Insurance ID Card: 24M users
- Leading Subscriber Identity standard for GSM/3G mobile phones
Location-Based Information & Intelligence  
Mission Critical & Time Sensitive

- Critical Infrastructure Coordination
  - Fed/State/Local/Private Sector
- Speed Complex Decision Making
  - First responders, incident recovery
- Infrastructure Protection
  - Real-time visualization of patterns

- Infrastructure Analysis Planning and Support
  - Development control plans, land management
- Public Safety & Information Dissemination
  - Tracking crime & deploying officers, Megans Law

Image source - City of Milpitas CA – Megans Law Info. Initiative

Image source - OCG
Success Stories
Real Deployments Today!
Government of Dubai

Business Requirements:
- Enhance citizen care
- Eliminate bureaucracy
- Increase productivity
- Eventually move all gov services online

Solution:
- Sun ONE product suite as foundation (Sun ONE Portal, Web, Application, Integration & Directory Servers on Sun servers and storage)
- Portal partners include Vignette (CM), Oracle (DB), Verity (Search)
- Micromuse, BMC, Remedy for management tools

IT Goal:
- Single portal into existing Web services
- Add more departmental and cross-departmental services in 2002
- Integrated Network management tools
- High Availability & Security

Results:
- Launched dubai.ae in 18 months
- Offering a range of services to citizens and visitors
- Integrated, secure, highly scalable architecture that supports adding G2G, G2B transaction services
- Dial Tone reliability at reasonable cost
- No single vendor lock-in
IAA – I Am Alive Project

- Centralized system to provide registration and query services in time of disaster
- National Coverage
- 3 Sun E10K Systems
- Part of WIDE (Widely Integrated Distributed Environment) project to use IT to serve mankind on a massive scale

Registration Form (for yourself)

- This registration form is for the victim to register your own degree of injury. Click the top menu to choose other fields.
- Registration will not succeed if all the mandatory items are not properly filled up. The optional items will be shown as part of the registered victim, during the search manipulation. So, please try to provide us with as much and detailed information as possible.
- If you don’t understand what should be filled in any fields, please click the name of that item to see help messages.
- Please press the “Register” button at the bottom of this form when you have finished filling the form.

About The Victim (yourself)

<table>
<thead>
<tr>
<th>Item</th>
<th>Mandatory or Optional</th>
<th>Victim’s details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real name</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Condition</td>
<td>Mandatory</td>
<td>○ Alive ○ Slightly injured ○ Seriously injured</td>
</tr>
<tr>
<td>Location where you are registering</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Nickname(s)</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>Optional</td>
<td>years old</td>
</tr>
<tr>
<td>Sex</td>
<td>Optional</td>
<td>○ Male ○ Female ○ Not checked</td>
</tr>
<tr>
<td>Blood type</td>
<td>Optional</td>
<td>○ A ○ B ○ AB ○ O ○ Not checked</td>
</tr>
<tr>
<td>Postal(ZIP) code</td>
<td>Optional</td>
<td>New Japanese 7-digit zip code (3 plus 4 digits).</td>
</tr>
</tbody>
</table>
Singapore eCitizen Portal

- Provides identity-based citizen access to all 3.5M Singapore citizens
- Over 600 eServices
- Starting a business
  - Legal Aid and advice
  - Healthcare Services
- Alerts:
  - Renewal of road tax
  - Medical examinations for domestic workers
  - Job alerts
  - Passport renewal notifications
  - Library book reminders
Sun ONE: Network Identity Proven Success

Proven – United States Defense Manpower Data Center

Benefits
- Reduced redundancy
- Increased security
- Platform for e-business
- Increase simplicity

Results
- Production in 12 months
- Single federated identity across 75 systems
- Supports over 5M employees
A Strong Ecosystem
Best Practices, Low Risk
Sharing Sun's Innovation with the Open Source Community

- OpenOffice.org
- The Apache Software Foundation
- NetBeans
- GNOME
- GridEngine
- Solaris X internationalization technology
- NFSv
- Mozilla.org
- Project JXTA
- Li18nux.org
- The WBEMsource Initiative
- Free Standards Group
- Linux International
Sun Products:
An End-to-End Platform

Systems
Enterprise™ Servers
Netra™ Servers
Sun Fire™ Servers

Virtualization Software
N1
Sun Grid Engine

Management Software
Sun Management Center™
Solaris Resource Manager™

Clients
Sun Ray™ Appliances
Ultra™ Workstations

Client Software
StarOffice
J2ME
Jini™, JXTA

Middleware
Sun ONE
Orion

Storage
Sun StorEdge™ Arrays
Sun StorEdge™ Tapes
Sun StorEdge™ Libraries

Platform Software
Solaris™
Java™
Linux