

A large, abstract graphic on the left side of the page, consisting of several overlapping, curved, semi-transparent shapes in shades of gray and white, creating a sense of depth and movement.

# Business Continuity During an Influenza Pandemic

White Paper  
February 2006

## Table of Contents

<b>Executive Summary</b> .....	<b>3</b>
9/11 Lessons .....	3
SARS, Bird Flu, and Tomorrow .....	3
Business Continuity as Priority #1 .....	3
Defining the Terms .....	4
<b>Facts About Avian Flu</b> .....	<b>5</b>
Estimated Workforce Impact .....	5
The Bird Virus .....	5
Treatment Options .....	5
Rapid Onset, No Vaccine .....	5
Assumptions About Avian Flu Infection .....	6
<b>Dealing With Avian Flu and What Comes Next</b> .....	<b>7</b>
Business Continuity .....	7
Steps Toward a Sustainable Business Continuity Plan .....	7
Other Important Planning Recommendations .....	8
<b>Mobility, Agility, and Resilience</b> .....	<b>10</b>
Beyond Telecommuting .....	10
Cost Avoidance .....	10
A More Satisfied Workforce .....	10
Improved Operational Effectiveness .....	11
Proven Return on Investment .....	11
Sun Open Work Practice Components .....	11
Modeling Scenarios .....	11
Defining Functional Design Specifications .....	12
Determining Metrics Architecture .....	12
Implementing Proof of Concept .....	12
Award Winning Approach .....	12
<b>Technology</b> .....	<b>13</b>
Infrastructure Recommendations .....	13
<b>Conclusion</b> .....	<b>15</b>

## Executive Summary

### 9/11 Lessons

Disaster preparedness has traditionally focused on the technology and procedures necessary to minimize data loss and restore infrastructure interrupted by a natural or man-made catastrophe. The 9/11 attack stands as a constant reinforcement of the necessity of this modality: every organization needs a plan ‘B’ when it comes to critical systems. But biological threats such as avian flu present different challenges; outbreaks can hit in repetitive waves and last days or weeks. While buildings, communications, and computers remain intact, transportation and health systems become inaccessible. Travel is disrupted, and ultimately, people stop going to their workplaces.

### SARS, Bird Flu, and Tomorrow

The advent of the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003, the current avian flu threat that began in 2004, and the predicted risks of new disease likely to emerge in future has changed the way businesses think about sustaining operations. Remaining competitive during a major disruption is not just about saving data and swapping infrastructure; it’s about isolating essential processes and enabling key individuals to sustain them.

SARS and avian flu teach us that actually falling ill, while the worst result from a human perspective, is but one of many costly outcomes from disease threats. Disruptions caused by the imposition of travel restrictions, the desire of personnel to avoid congregating, and uneven local government responses to biological crises can all hinder business. Whether or not a full-scale avian flu pandemic materializes, disruptions will continue to multiply and accelerate with each new threat. Organizations with the ability to adapt to disruptions from avian flu, or any other rapid change to the working environment, will have the competitive advantage.

### Business Continuity as Priority #1

Sun Open Work® is a consulting methodology and technologies that help businesses focus their operations to increase workforce flexibility and decrease location-dependent practices. This methodology supports Business Continuity by adding great resilience and operational agility, but it also creates opportunities in other key areas such as outsourcing, offshoring, and rapid resizing of the workforce.

This paper focuses on proven, sustainable long-term business continuity strategies and will:

- Provide an overview of the threat posed by avian flu
- Describe how Business Continuity planning decouples people and essential business processes from physical locations wherever possible
- Discuss how true personnel and process mobility— not telecommuting— leads to greater flexibility, agility, and resilience to change and disruption in general
- Explain how this flexibility leads to a competitive advantage not only during an outbreak of avian flu, but in day-to-day operations

## **Defining the Terms**

This paper focuses on Business Continuity, but this term, along with Disaster Recovery, and Emergency Response are often used interchangeably. To avoid confusion:

### **Business Continuity**

The planning, training, policies, procedures, and technical infrastructure required to maintain essential business operations during a catastrophic failure, disaster or other disruptive event, including a protracted situation such as an outbreak of disease.

### **Disaster Recovery**

The planning, procedures, and technical infrastructure needed to minimize data loss and rapidly replace key infrastructure with parallel systems during a disaster event. Disaster Preparedness is often used to express the same concept.

### **Emergency Response**

An action plan, policies, and procedures required for responding to a disaster in the first several hours following the event to minimize harm to life, health, and essential property.

## Facts About Avian Flu

The World Health Organization and the Centers for Disease Control of the United States have both published guidelines and procedures for dealing with an outbreak of avian flu. Many national and local governments are following suit, as are multi-national corporations with globally distributed workforces.

Three global influenza pandemics have emerged over the last century. In 1918-1919, one infected 20 percent of the world's population, causing unusually high mortality rates. The virus responsible traveled along shipping lanes, trade routes, and across continents carried by World War I soldiers. While no one can predict if the Avian Flu virus will become similarly efficient at human-to-human transmittal and trigger a pandemic, many public health experts agree that it shares many characteristics with the 1918 strain and is a cause for concern. Regardless, it's certain that a new pandemic will arise at some point in the future. Since 1700, human influenza pandemics have struck on an average of one every 26 years. Many experts believe that given the growing worldwide human and bird populations, the rate of pandemic virus creation and transmission is likely to increase accordingly.

### Estimated Workforce Impact

An estimated 30-50% of your workforce may get sick or be absent from work for ancillary reasons at the height of an outbreak of avian flu.<sup>1</sup> To contain infection, local authorities will likely close schools, markets, and public transportation systems including rail, roads, and airports. Informed employees will avoid crowded places and offices, refrain from meeting colleagues in person, and will need to remain in their homes for a period of days until the outbreak subsides to avoid infection. In this environment, essential business processes could quickly grind to a halt without careful planning and anticipatory change.

### The Bird Virus

Avian flu in humans is caused by infection of the H5N1 virus, a virulent form of an influenza pathogen that's extremely contagious among birds. This potentially deadly strain of the virus has been passed to humans only in limited numbers to date (about 186 officially reported cases by early Feb, 2006) from direct contact, mainly by handling domestic poultry. Currently, the mortality rate among human victims of avian flu stands at a frightening 50%.

Although human-to-human transmission remains exceptional, the avian flu virus has been shown to mutate quickly. Experts agree that the real danger lies in the virus eventually acquiring the ability to become easily contagious among humans. Should this change occur, the likelihood of a pandemic becomes significantly more likely.

### Treatment Options

While treatment with Tamiflu, a prescription anti-viral drug that — when given in the first 48 hours of the onset of symptoms — has been effective in a majority of cases, recently two cases revealed a drug resistant form of the virus. Scientists predicted that such a form of the virus would occur<sup>2</sup>, in which case Tamiflu may cease to work or may be required in much larger doses over a longer period of time to ward-off a full-blown case of avian flu, making such treatment challenging. In addition, supplies of Tamiflu are limited and expensive as organizations and governments buy up the drug. Acquisition of Tamiflu should not be thought of as the solution to Business Continuity planning for an outbreak of avian flu.

1. Simon Freeman, "Top bank plans for bird flu hitting half its workforce," Times Online. January 10, 2006.

2. Lawrence K. Altman, "2 Who Died From Avian Flu in Vietnam Were Resistant to an Antiviral Drug," New York Times Online, December 22, 2005.

3. "Influenza A (H5N1), WHO Interim Infection Control Guidelines for Health Care Facilities," March 2004

### Rapid Onset, No Vaccine

The onset of avian flu is rapid, usually within 2-3 days, giving the victim and the business depending on the individual who contracts the disease little time to react<sup>3</sup>. There is currently no vaccine and there will not be one available until it actually mutates to the point that it can be transferred from one human to another easily. At that point, a vaccine could be developed in a number of days, but mass manufacturing of the vaccine relies on a process that was developed in the early 50s requiring cultivating the vaccine in millions of eggs. This requires four months of incubation before vaccine becomes available. The United States has moved most of its vaccine production overseas, compounding the delay. In addition, there is a high likelihood that countries where vaccine is produced will not approve export until their citizens receive it.

### Assumptions About Avian Flu Infection

1. Susceptibility to an easily communicable form of the virus will be universal.
2. Efficient and sustained person-to-person transmission signals an imminent pandemic.
3. The clinical disease attack rate will likely be 30-50% in the overall population during the pandemic. Illness rates will be highest among school-aged children (about 40%) and decline with age. Among working adults, an average of 20% will become ill during a community outbreak.
4. Some persons will become infected but not develop clinically significant symptoms. Asymptomatic or minimally symptomatic individuals can transmit infection and develop immunity to subsequent infection.
5. Of those who become ill with influenza, 50% will seek outpatient medical care.
6. With the availability of effective antiviral drugs for treatment, this proportion may be higher in the next pandemic.
7. The number of hospitalizations and deaths will depend on the virulence of the pandemic virus. Estimates differ about greatly between more and less severe scenarios, but planning should be based on the more severe scenario.
8. Risk groups for severe and fatal infection cannot be predicted with certainty but are likely to include infants, the elderly, pregnant women, and persons with chronic medical conditions.
9. Rates of absenteeism will depend on the severity of the pandemic, but estimates range from 30-50%.
10. In a severe pandemic, absenteeism attributable to illness, the need to care for ill family members, and fear of infection may reach 40% during the peak weeks of a community outbreak, with lower rates of absenteeism during the weeks before and after the peak.
11. Certain public health measures (closing schools, and quarantining of household contacts of infected individuals) are likely to compound absenteeism.
12. The typical incubation period (interval between infection and the onset of symptoms) for influenza is approximately 2 days.
13. Persons who become ill may shed virus and can transmit infection for up to one day before the onset of illness. Viral shedding and the risk of transmission will be greatest during the first 2 days of illness. Children usually shed the greatest amount of virus and therefore are likely to post the greatest risk for transmission.

4. Assumptions data from the Convening of the States symposium, December 5, 2005.

14. On average, infected persons will transmit infection to approximately two other people.
15. In an affected community, a pandemic outbreak will last about 6 to 8 weeks.
16. Multiple waves (periods during which community outbreaks occur across the country) of illness could occur with each wave lasting 2-3 months. Historically, the largest waves have occurred in the fall and winter, but the seasonality of a pandemic cannot be predicted with certainty.<sup>4</sup>

## Dealing with Avian Flu and What Comes Next

### Business Continuity Mindset

It's helpful to imagine a scenario in which no facilities have been affected, but rather that they have become inaccessible for an indeterminate number of days or weeks.

The question you need to ask is this:

*“If everyone in my organization or in a particular geographic area had to leave work right now and stay at home, do I know how many critical processes would be affected? Even if I knew how many critical processes would be involved, how long would it be before we could no longer conduct business under those circumstances?”*

### Steps Toward a Sustainable Business Continuity Plan

The ultimate goal of any Business Continuity plan must be to enable essential functions when the normal working environment ceases to be safe and accessible. In other words, working remotely must become second nature as personnel will not be able to congregate, meet in person, nor use offices without risking infection.

In a global business environment, cultural attitudes and workplace norms need to be carefully reviewed along with business practices to ensure those ‘unwritten’ rules don't interfere with Business Continuity goals.

In order to determine which people and processes need to be enabled for remote work immediately, a plan and supporting infrastructure needs to be formulated.

#### 1. Evaluate and Determine Essential Processes

What functions are absolutely essential to the company in the short term? Functions such as Marketing, aspects of Finance, and Legal, for example, fall into long term planning or operations categories, and may not be absolutely essential day-to-day operations.

Identify critical functions such supply chain activities, order-to-cash, and procure-to-pay processes. Rethink and reengineer those processes so that remote workers can perform them. Document the reengineered processes, develop procedures and policies to support the reengineered processes, and define roles and responsibilities.

#### 2. Identify Essential Personnel

Once you've determined a list of essential processes required for short-to-near term survival of the business, gather a list of the individuals required to support those functions. Who do you need in which roles in order to accomplish the essential processes to sustain the organization? Train workers for their new, re-engineered roles and responsibilities and test effectiveness by having employees work from remote locations. Cross train employees as much as possible to increase coverage of critical roles.

#### 3. Flag Face-to-Face Processes

Next, for each of those individuals or groups, determine how much face-to-face contact is truly required. Essential functions that currently depend on physical proximity such as in-person meetings, going to a particular location, using a certain machine, or gathering with others should be identified and flagged for review.

#### 4. Eliminate Proximity Determinants

Very simple actions we take in a workplace, such as flipping on light switches, holding stairwell handrails, or shaking hands become disease vectors during an outbreak and need to be avoided.

Most processes that currently take place in a particular place can be reworked to enable remote interaction. Enabling your workforce to adapt to a radical change in their working environment—from office to home—and to switch from in-person processes to remote ones is critical to keep your business functioning during the height of an outbreak.

#### 5. Address Policy and Cultural Obstacles

Businesses may hobble their own effectiveness during an avian flu outbreak if policies run counter to Business Continuity goals. For example, any policy that penalizes personnel for staying at home when they become ill should be amended to emphasize group health over individual, in-person attendance.

- If current policy restricts the number of sick days to control absenteeism, new approaches to addressing that problem should be explored and adopted.
- Removing avenues for new infection from the office or workgroup by encouraging the sick to stay home is crucial to containing the disease.
- Cultural norms must also be considered when planning for an outbreak of disease. For example, although it may be most wise to work from home, some cultures may frown on this practice or stigmatize it.

To combat these obstacles, it's extremely important to practice doing business from home prior to an event and integrate that practice into the corporate culture each day.

#### 6. Put Your Plan Into Practice Today

In order to ensure continuity during a disease event or disaster, the transition between working in the traditional office or workgroup environment to working at home and eliminating contact with others needs to be virtually transparent. The only way to attain that level of flexibility, businesses must adopt mobility options and use them today.

### Other Important Planning Recommendations

1. Establish a set of “trigger points” that can be invoked as the pandemic takes hold. Each trigger point needs to have a set of well-defined checklists with clear-cut responsibilities. This will help your company coordinate key activities throughout all business units and ensure well-managed execution of your emergency plans.
2. Make the workforce aware of the avian flu threat and the steps your company is taking to prepare for it.
3. Establish a global working group or task force to plan and co-ordinate responses across all regions and business units.
4. Start tracking avian flu developments.
5. Use scenario planning and update your business continuity plan.
6. Take immediate steps to enable a mobile workforce so that your workers can work from home or move to other designated safe locations.
7. Plan for significant absenteeism (predicted to be from 30-50%).
8. Immediately begin working with your Health Plan Administrator to develop emergency health care procedures.

9. Prepare a media point person in the event of a pandemic.
10. Implement a company-wide analysis of “essential” and “nonessential” functions during a pandemic. Develop plans to appropriately shift resources. In preparation, consider appropriate cross training and education.
11. Develop an emergency set of employee procedures and policies that can be used during a pandemic.
12. Develop emergency communications mechanisms that will be needed during a pandemic. This includes communications to employees, customers, and consumers.
13. Design and develop an employee database that will be needed during the pandemic to track key information about employees and their families.
14. Develop a plan to rapidly scale up customer self-services capabilities.
15. Develop an emergency corporate chain of command so that no matter which executives become ill, leadership is well understood.
16. Develop essential contacts and relationships with governmental agencies. Understand and document which agencies will be making decisions.
17. Inform the company’s Board of Directors about this issue. Provide the board with status updates on the progress of preparation activities.

## Mobility, Agility, and Resilience

For companies seeking to build a more efficient, globally distributed mobile workforce that's flexible and resilient during outbreaks of avian flu or any other similar threat to operations, Sun offers an integrated system of organizational, workspace, and technology consulting services called Sun Open Work.

Sun Open Work addresses the complete work environment:

- Practices
- Technology
- Workplaces

Enabling true workforce mobility is not the same thing as telecommuting, and it's important to make this distinction.

### Beyond Telecommuting

The purpose of workforce mobility goes to the heart of how work is accomplished. True mobility implies implementing practices and technology that reshape the way business gets done by decoupling work from physical locations where possible, and from face-to-face meetings when desirable. This rethinking results in greater resilience, agility, and flexibility that can survive all types of change and disruption, including an outbreak of avian flu.

Sun Open Work has been developed over a decade of internal research and experience, and has proven to deliver significant improved Business Continuity resilience. But it also delivers additional long-term benefits, including:

#### Cost Avoidance

1. Averts operational failure as well as provides a competitive advantage in an avian flu affected region and in non-crisis, day-to-day operations.
2. Reduces employee risks in the event an outbreak of avian flu by enabling full mobility while boosting mobile productivity in general.
3. Reduces location-dependency so real estate portfolios can be evaluated in a new light and divested if underutilized without impacting future workforce expansion.
4. Reduces utilities and facilities costs as fixed real-estate assets decrease.
5. Leads to greater agility for outsourcing and offshoring, as well as greater flexibility during times of growth or contraction of the workforce.

#### A More Satisfied Workforce

1. Increases options for employees to work from home, from remote offices, or anywhere without productivity loss.
2. Reduces turnover by offering more choice of workplace, which in turn leads to lower costs for hiring and training.
3. Reduces employee commute costs.

4. Reduces hiring and relocation costs.
5. Allows employees to remain close to family in times of crisis.

### **Improved Operational Effectiveness**

1. Aligns specific business outcomes with your company's business metrics, organizational practices, work styles, and physical/technological infrastructure.
2. Results in true workforce mobility supported by access to services, tools, and workplaces, which are specifically suited to your organization.
3. Reduces the risk associated with volatile economic times and workforce resizing by reducing fixed asset costs and increasing existing IT utilization.
4. Diffuses risk by situating employees in multiple locations. There is no single point of catastrophe that could cripple your organization.
5. Reduces reliance on local transportation systems, which would likely become unusable in the height of an outbreak of avian flu.

### **Proven Return on Investment**

Sun pioneered Open Work and has been measuring the results since inception over 10 years ago.

- Sun's real estate cost-avoidance has been over \$319 million over the lifetime of the program, with an avoidance of over \$69 million in FY2005 alone.
- One study found that moving to Sun Ray thin clients produced a 31% risk-adjusted ROI, with a payback period of just 26 months.<sup>5</sup>
- Annual IT and related power savings at Sun are nearly \$24 million.
- Adopting thin clients and associated architectures delivered about \$1,000/yr/desktop in savings, including software, hardware, replacement and administration.<sup>6</sup>

### **Sun Open Work Practice Components**

Sun Open Work consultants ease your organization through three phases.

- Business Context and Data Collection
- Strategy, Design and Planning
- Implementation and Evaluation

Sun experience and expertise helps align your business context and objectives with desired outcomes by determining your 'desired future state' of readiness, performing a gap analysis against your current state, and helping you to realize your objectives.

### **Modeling Scenarios**

Through Scenario Modeling, multiple work approaches are identified and defined to effectively support the key success factors and Business Continuity. These work scenarios help you to transition from your "today state" to your "future state," and readiness for Business Continuity execution. Each scenario is described in terms of specific design feature choices that

represent the distinguishing characteristics of the scenario. Work features include physical workplace infrastructure, technology and organizational policies and practices.

### **Defining Functional Design Specifications**

Sun helps you to transform your vision into functional design specifications during the translation process. The functional specifications are tailored into an implementation strategy for your specific organization.

This involves conducting a gap analysis relative to the current state and developing an action plan that specifies investments and resource requirements, timing and deliverables.

Your organization will also need change management strategies, comprehensive communications strategies, training, coaching and counseling to deal with the change, and with the threat posed by avian flu.

### **Determining Metrics Architecture**

Sun also provides the tools and best practices necessary to develop the metrics architecture — derived from data collected through surveys, strategy meetings, client assessments and executive input.

Throughout the process, metrics are used to evaluate the ongoing success and effectiveness of the program. These metrics provide milestones to monitor the success of the program against pre-defined, clearly measurable goals and metrics.

### **Implementing Proof of Concept**

The method by which these program elements are implemented is tailored to your particular organization, with Sun providing general process guidelines during the Proof of Concept stage.

As the enterprise transitions from proof of concept to deployment, quality control measures are implemented and sustaining management processes are instituted to support the ongoing evolution of the flexible workplace.

### **Award Winning Approach**

Sun has received numerous awards for Open Work practices implemented internally, including:

- 2006 AWLP Award for Innovated Excellence by WorldAtWork
- 2005 Optimas Award presented by Workforce Management
- 2004 Vignette Efficiency Award
- CoreNet Global Innovators Award

## Technology

In addition to complete work-practice consulting services, Sun also offers integrated mobile workplace technologies. These technologies are all in use at Sun, and when deployed in tandem with a Business Continuity plan and aligned to larger business objectives, they enable organizations to realize the full business benefits of workforce mobility, including avian flu preparedness. These technology offerings include:

- Network Preparation
  - Managed access outside and within enterprise locations
- Identity Management
  - Authentication
  - Authorization
  - Access Control
  - Federation Management
- Secure Remote Access
  - Sun Secure Global Desktop
- Secure Desktop options
  - Dedicated Sun Ray, low-overhead thin-client option
  - PC/Software based thick-client option
  - Integrated VoIP option
- Role-based Enterprise Portal
  - Access to information, tools, and processes necessary to perform role
  - Access to applications and special technologies
  - Collaboration tools
  - Telephony and voice services

These technologies are fully integrated and can be deployed without disrupting existing infrastructure. In preparation for avian flu or any similar biological threat, this integrated infrastructure is key to enabling true ‘work anywhere’ mobility. The products that deliver these benefits include:

- Sun Java System Portal Server
- Sun Java System Directory Server
- Sun Java System Identity Server
- Sun Secure Global Desktop

### Infrastructure Recommendations

1. Implement an enterprise-wide role-based portal with full personalization and secure remote access.
2. Provide an enterprise-wide information directory within the portal with universal search utilizing role-based privileges.
3. Allow employees regardless of location to access critical applications through the portal. Also utilize the portal to facilitate collaboration.
4. When the trigger point is reached, put an immediate freeze on virtually all IT changes. Since most outages are caused by change, only the most critical changes should be permitted.

5. Implement Business Process Management at least to the point where critical processes and associated workflow can be managed remotely.
6. Create a page on company portals that provides regularly updated information about the virus and what employees need to do.
7. Develop plans and processes to transfer IT operational responsibility from one region to another. Test preparedness.
8. Develop plans and processes to enable a significant percentage of employees to work from home or other safe locations.
9. Provide employees with a laptop or Sun Microsystems Sun Ray™ to enable them to work from home.
10. Develop a software package that will allow employees to quickly duplicate their at-work environment at home - this step is not required when using Sun Rays.
11. Update your network to support a distributed employee environment.
12. Implement a comprehensive identity management solution that will automate the process of on-boarding and off-boarding employees and contractors. Manual processes are slow, often inaccurate and increase security risks that can be exploited during a crisis.
13. Review and update company security policies to support alternative work places.
14. Establish an employee call center.
15. If you have not done so already, implement instant messaging across your employee base.
16. Enable video conferencing.

## Conclusion

While avian flu is the latest threat to both business and personal health, it won't be the last. For global corporations, readiness for surviving and succeeding during times of disruption from threats or outbreaks of disease requires more than Disaster Recovery planning: it requires Business Continuity planning. And to make Business Continuity effective, businesses must retool their workplaces to become more flexible, mobile, and agile. The Sun Open Work consulting methodology and technologies have been developed and proven over a decade of frontline use. By engaging Sun Open Work consultants and implementing these technologies today, you can begin to reap immediate returns from increased workforce mobility while building in resilience to ensure Business Continuity for the future

© 2006 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, CA 95054 USA

All rights reserved.

This product or document is protected by copyright and distributed under licenses restricting its use, copying, distribution, and decompilation. No part of this product or document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any. Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Parts of the product may be derived from Berkeley BSD systems, licensed from the University of California.

Sun, Sun Microsystems, the Sun logo, [ADD APPLICABLE TRADEMARKS HERE] are trademarks, registered trademarks, or service marks of Sun Microsystems, Inc. in the U.S. and other countries.

UNIX is a registered trademark in the United States and other countries, exclusively licensed through X/Open Company, Ltd.

All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the U.S. and other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

The OPEN LOOK and Sun™ Graphical User Interface was developed by Sun Microsystems, Inc. for its users and licensees. Sun acknowledges the pioneering efforts of Xerox in researching and developing the concept of visual or graphical user interfaces for the computer industry. Sun holds a non-exclusive license from Xerox to the Xerox Graphical User Interface, which license also covers Sun's licensees who implement OPEN LOOK GUIs and otherwise comply with Sun's written license agreements.

RESTRICTED RIGHTS: Use, duplication, or disclosure by the U.S. Government is subject to restrictions of FAR 52.227-14(g)(2)(6/87) and FAR 52.227-19(6/87), or DFAR 252.227-7015(b)(6/95) and DFAR 227.7202-3(a). DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS HELD TO BE LEGALLY INVALID.