

Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Tools for Trainers: Secrets of Safeguards Documentation



Presented by:
Neil Herber
Eton Systems
Ottawa, Canada

Co-author:
Q.S. Bob Truong
Canadian Safeguards Support Program
Canadian Nuclear Safety Commission
Ottawa, Canada

47th INMM Annual Meeting, Nashville, TN, USA, 16-20 July 2006

INMM paper 268 - 2006-07-20 Page 1 Presented by Neil Herber, Eton Systems



Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Acknowledgements

- **Thanks to the following for advice and assistance:**
 - Ken Desson, Androcom Interactive Media, Ottawa, Canada
 - Cesare Liguori, International Atomic Energy Agency, Vienna, Austria
 - David J. Martin, D. J. Films-Multimedia, Inc., Ottawa, Canada


INMM paper 268 - 2006-07-20 Page 2 Presented by Neil Herber, Eton Systems



Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

The CSSP and the IAEA

- **As part of its mandate, the Canadian Safeguards Support Program (CSSP) provides training support to the International Atomic Energy Agency (IAEA)**
 - Training materials development
 - Course delivery
 - System documentation
 - Procedure manuals
 - Subject matter experts



INMM paper 268 - 2006-07-20 Page 3 Presented by Neil Herber, Eton Systems




Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Tools for Trainers: Secrets of Safeguards Documentation

- **What this paper covers:**
 - The motivation
 - Creating a stable “test bed”
 - Getting great screenshots
 - Practicing what we preach
 - Concluding remarks

INMM paper 268 - 2006-07-20 Page 4 Presented by Neil Herber, Eton Systems




Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Tools for Trainers: Secrets of Safeguards Documentation

The motivation

INMM paper 268 - 2006-07-20 Page 5 Presented by Neil Herber, Eton Systems




Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Motivation ...

- **We need to document software-based instruments and procedures**
- **An essential component of manuals and training materials are screenshots**
- **We want to be able to re-use screenshots for different purposes**
- **“Guerilla production” because we may have low/no budget or have to document “on the road”**

INMM paper 268 - 2006-07-20 Page 6 Presented by Neil Herber, Eton Systems



Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

We want to get great screenshots, but ...

- **Some systems are locked down**
 - Need to run the software on a different machine
- **Dangers to the documenter's PC**
 - "Beta" software can have unexpected behavior - may corrupt existing files
 - Existing files and software may interfere with the software being documented
- **Documenters need to be willing to deal with technical matters**



INMM paper 268 - 2006-07-20 Page 7 Presented by Neil Herber, Eton Systems

Canada

Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

How to solve these problems ...

- **Hardware and software strategies**
- **Objectives**
 - Isolate the software to protect the documenter's machine
 - Provide a clean computing environment for the software
 - Provide a method to recover from software failures

INMM paper 268 - 2006-07-20 Page 8 Presented by Neil Herber, Eton Systems

Canada

Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Tools for Trainers: Secrets of Safeguards Documentation

Creating a stable "test bed"


INMM paper 268 - 2006-07-20 Page 9 Presented by Neil Herber, Eton Systems

Canada

Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

"Test bed" defined

- **A computing platform used for documenting new software**
- **Needs to be**
 - Stable
 - Isolated
 - Repeatable
 - Restorable
- **Needs to be a known environment**



INMM paper 268 - 2006-07-20 Page 10 Presented by Neil Herber, Eton Systems

Canada

Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Test bed hardware

- **A dedicated machine**
 - Low-cost, generic, "white box"
 - Minimal bells and whistles
- **Hard drive disk racks**



INMM paper 268 - 2006-07-20 Page 11 Presented by Neil Herber, Eton Systems

Canada

Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Test bed software

- **Disk imaging software**
 - Windows System Restore (\$0)
 - Retrospect (\$130+)
 - Norton Ghost (\$70)
 - Drive SnapShot (\$50+)
- **Our choice**
 - Drive SnapShot
 - Fastest
 - Most compatible

INMM paper 268 - 2006-07-20 Page 12 Presented by Neil Herber, Eton Systems


Canada

Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Test bed software

- **Virtualization software**
 - Microsoft Virtual PC (\$129)
 - VMware Workstation (\$189)
 - Parallels Workstation (\$49)
- **All do a good job – take advantage of the trial periods to choose your favorite**
- **Excellent solution for a laptop computer**

INMM paper 268 - 2006-07-20 Page 13 Presented by Neil Herber, Eton Systems



Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Tools for Trainers: Secrets of Safeguards Documentation

Getting great screenshots

INMM paper 268 - 2006-07-20 Page 14 Presented by Neil Herber, Eton Systems




Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Basic screenshots

- **Many ways to get screenshots**
- **Windows print screen utility (\$0)**
 - Large .bmp files, entire screen, no editing
 - Suited for quick grab-and-go shots
- **TechSmith's SnagIT (\$39)**
 - Can capture arbitrary regions
 - Saves in many formats
 - Integrated editor

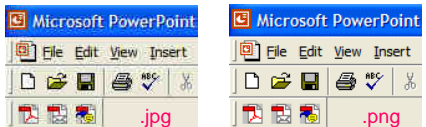
INMM paper 268 - 2006-07-20 Page 15 Presented by Neil Herber, Eton Systems




Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Screenshot image formats

- **Four typical formats**
 - .bmp – files are too big
 - .jpg – can distort fine details
 - .gif – limited colors, but good images
 - .png – compact and good fidelity




INMM paper 268 - 2006-07-20 Page 16 Presented by Neil Herber, Eton Systems




Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Advanced screenshots

- **You don't need to show the whole screen**
 - Use an effect to show relative position



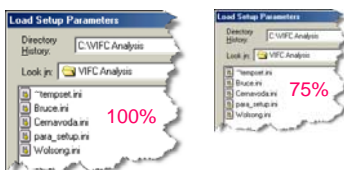
INMM paper 268 - 2006-07-20 Page 17 Presented by Neil Herber, Eton Systems




Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Advanced screenshots

- **Scaling tips:**
 - Use the same scale within one document
 - Do not scale the original file



INMM paper 268 - 2006-07-20 Page 18 Presented by Neil Herber, Eton Systems



Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Advanced screenshots

- Use a stamp to enumerate

Italia 2006 Home Page

A password is required to view this page.

Enter your first and last name: NeilHerber

Enter your password:

NOTE: Different passwords give access to different areas.

History All Recent Changes

Page last modified by Cesare Ugioni, June 05, 2006, at 06:45 AM

INMM paper 268 - 2006-07-20 Page 19 Presented by Neil Herber, Eton Systems

Canada

Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Advanced screenshots

- Use highlighting tools to focus attention

Load Setup Parameters

Directory: C:\VFC_Analysis

Look in: VFC_Analysis

Files:

- tempout.in
- Bruck.in
- Canada.in
- para_setup.in
- Wrlong.in

INMM paper 268 - 2006-07-20 Page 20 Presented by Neil Herber, Eton Systems

Canada

Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Advanced screenshots

- Use "callouts" to both indicate and describe items on the screenshot

VIFM Review

Callout on the screenshot

Callout inserted in PowerPoint

INMM paper 268 - 2006-07-20 Page 21 Presented by Neil Herber, Eton Systems

Canada

Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Tools for Trainers: Secrets of Safeguards Documentation

Practicing what we preach

INMM paper 268 - 2006-07-20 Page 22 Presented by Neil Herber, Eton Systems

Canada

Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Example 1 – Content reuse

- CSSP training CD on VIFM for the IAEA
 - VIFM spent fuel monitoring system
 - CD video format incompatible with PowerPoint
 - SnagIT video capture allowed reuse

IAEA inspector downloads the data

VIFM

INMM paper 268 - 2006-07-20 Page 23 Presented by Neil Herber, Eton Systems

Canada

Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire

Example 2 – One-click install test

- The CSSP has provided VITA to the IAEA
 - Text visualization and analysis tool
 - VITA software uses 3rd-party plug-ins
 - Needed to test clean installs
 - Screenshots for training

INMM paper 268 - 2006-07-20 Page 24 Presented by Neil Herber, Eton Systems

Canada

Example 3 – Using software stubs

- **Documenting a locked-down system**
 - VIFM spent fuel monitoring system
 - Systems are remote
 - Systems attached to specialized hardware
 - Needed to simulate error conditions
- **Created a “stubbed” version of the software**
 - Allows error simulation
 - Can run on a laptop
 - Can use tools like SnagIT



VIFM cabinet

Concluding remarks

- We hoped to share screenshot tips
- Stable test bed was very important
- Techniques should be useful for the IAEA and consultants working on software-based safeguards systems



Any Questions???



More details at <http://saturn.eton.ca/>