*Notes are by Agenda item for meeting.

**See presentation deck for each Agenda item information shared/reviewed with group.

Safety/Security Moment

Announcements and Updates:
- Regarding the EFCOG QA/SQA Fall virtual meeting, it may move from November 1-4 to November 29 – December 2. Waiting for final decision of ISM&QA Leadership team

Volunteer for Site Presentations at Future WebEx Meetings
- The presenter for August is not available to present. We need another presenter/presentation for August.
- In addition, there are open slots available for sites to sign up for in 2022. Please send email to Vicki/Teri/Carol with your requested month, and topic.

Building Cyber Security Tools Using the ROSE Compiler Infrastructure, Greg Pope (LLNL)
- Greg Pope is a CSQE. He and his team works on building cyber security tools, using the ROSE compiler infrastructure at LLNL.
- In the past, it has been tricky to talk about cyber security, as no one wanted to talk about it, but that is changing.
- The ROSE team works on compiler infrastructure to bridge the gap between research and the software they use by providing tools to help research use the software safely. The team started 28 years ago.
- The ROSE team takes software code and converts it into code a processor can understand, such as C++. For example, 6! Is converted into $1X2X3X4X5X6 = 720$.
- The compiler infrastructure is a front end to the compiler, and it creates robust Abstract Syntax Tree (AST) code and passes this code into C+ languages.
- Regular compilers lose info such as comments. ROSE wants to perform analysis on the code or generate new code.
    1. ROSE Front End -> ROSE IR.
    2. Tool Code <-> ROSE Compiler Infrastructure ->, and Source or Binary Code -> Tool -> Analysis & Transformed Code.
- Firmware uses only static memory.
- For example, Commercial Static Analyzers missed Alarm Rate, ROSE team fixed all vulnerabilities.
- Binary Analysis Tools (BATS) detect presence of vulnerabilities in code.
- For example, Solar Winds invoked back door in two weeks and not if in sandbox. If EFCOG SQA would like to have another presentation on Solar Winds, the presentation has been updated.
- Source Code Unit Tester is for C and C++.

- Here are software tool problems that the ROSE team addressed:
    1. Problem: How to increase test coverage. Perform Concolic Binary Tester new technique. IBM uses this technique on source code, ROSE team is using for testing binary code.
    2. Problem: Proactivity detect suspension. Use Wrangler Tools for binary analysis of COTS executables. Important to Solar Winds. For .dll C sharp code, looks at intermediate code.
    3. Problem: Maintenance and support of legacy languages like JOVIAL and ADA from the 1970's. Use language translation and tracer to convert JOVIAL and ADA to C++. Add tracers to provide intermediate views.
    4. Problem: Identifying the software components being used such as Long Claw. Use binary to review libraries to determine library name and version. For example, SBOM, which is database of libraries from COTS vendors.
    5. Problem: Agile Tools, such as Strcpy detector fixer, can have buffer overflow. Built this tool in a few hours.
- Take away: smart people build tools; some are complete and some are not. Hackers will always try things to access the code. Other labs are working on these tools. For instance, LLNL is working with Sandia on these infrastructure tools.
- If anyone has any questions for Greg, please send to pope12@llnl.gov .

Task Group Updates & Members
- Toolbox Alternatives (Pat Auer, LLNL, Leader)
    1. The team is taking the questions and answers they received from AU-32, to update their Toolbox survey.
    2. They will have more information on this survey next month.
- Testing Spreadsheets (Greg Pope, LLNL, Leader)
    1. The team is working on a white paper.
    2. The team is also working on a checklist of things to check for with spreadsheets. Should have checklist finished and will make it available to others as part of the white paper.
    3. The Excel Analyzer tool that LLNL purchased binds to Excel. It is an amazing checker. Better than the tools built into Excel. LLNL purchased three (3) licenses of this software. The company is in the Netherlands.
    4. The Excel Analyzer vendor could provide demo to EFCOG SQA.
- Internet of Things (Orlando Ferrer, WRPS, Leader)
    1. No update.
- Definition of Graded Approach (Lance Abbott, SRS/Jeni Turgeon, SNL, Co-leaders)
    1. Awaiting Vicki's review of White Paper.
- Software Standards and Orders (Cristy Renner, Fluor BWXT, Leader)
    1. White Paper is 90% complete.
    2. Wrapping up spreadsheet database. Recent version is on SQA website and Box.
- Cloud-based Hosting Software (Russell Swannack, PNNL. Leader)
    1. White paper has been reviewed by Vicki and is awaiting responses to comments.

Questions in Chat:
1. From Donna Riggs: What is the name of that Excel test tool? (Excel Analyzer)
2. From Christian Palay: Does it meet Order 414.1?
    a. Answer: Vicki Pope. ExcelAnalyzer is the Spreadsheet Testing tool Greg mentioned during his Testing Spreadsheets Sub-Task group update. A few people wanted more information.
        i. Spreadsheet software | Check Your Spreadsheets and Eliminate Errors.
        ii. Stop wasting Time & Money by checking your spreadsheets manually cell by cell. World's most powerful Excel Add-in for reviewing and correcting spreadsheets.
        iii. Here is the website link to the company: https://spreadsheetsoftware.com/.

Upcoming Events of Interest
- Send an email to NQA-1 Subcommittee on Software Quality Assurance website, there is link on agenda slide, to be included in their email list.
- Next Meeting: Wednesday August 18, 2021 @ 1:00 pm PST.

EFCOG SQA Monthly Meeting Notes and Attendance
July 21, 2021

Attendance:

If anyone attended this meeting but does not see their name on the list on next page, please contact Vicki Pope (pope13@llnl.gov).

Chair: Vicki Pope (pope13@llnl.gov)
Vice Chair: Teri Vincent (teri.vincent@cns.doe.gov)
Secretary: Carol Olijar (cschultz@anl.gov)

36 Attendees.

Need attendees to identify themselves for attendance by phone, for first 3 rows in list, highlighted in yellow, by their telephone attendee ID?

#	First Name	Last Name	Site
1	Phone, h0104661	???	???
2	Phone, 7406****95	???	???
3	Phone, LPW	???	???
4	Sidney	Ailes	Atkins
5	Patrick	Auer	LLNL
6	Gregory	Baker	NNSA
7	Todd	Billings	DOE
8	Colby	Carter	WIPP
9	Laura	Cook	LLNL
10	Lisa	Cooper	Paducah
11	Mary	Curtis	FNAL
12	Yevonne	Deaton	DOE
13	Denise	Fast	WRPS
14	Faith	Girolamo	SRS
15	Sarah	Hartson	NNSA
16	James	Hylko	ORNL
17	David	Louie	SNL
18	Steven	Mahnesmith	SNL
19	Juanita	McKinney	BNL
20	Stella	McKirdy	INL
21	Alvin	McClerkin	NNSA
22	Jacob	Miller	DOE
23	Jenna	Neal	NNSS
24	Carol	Olijar	ANL

25	Christian	Palay	DOE
26	Greg	Pope	LLNL
27	Vicki	Pope	LLNL
28	Donna	Riggs	Riggs Consulting
29	Jackie	Salazar	LANL
30	Terry	Scoggins	ORNL
31	Dave	Thoman	Amentum
32	Jennifer	Turgeon	SNL
33	Gladys	Udenta	NNSA
34	Marlene	Underwood	PORTS
35	Teri	Vincent	CNS
36	Al	Zuckero	SRS

*Sorted by Last Name, First Name.