Chicago 1.5 Day WS Agenda (Strawman)

- ***Day 1 (3 Hr Content, 4hr Total) Start of Science DMZ Topics:***
  - Afternoon 1 (1:00pm to 3:00pm)
    - 1:00pm to 1:30pm - Introduction/Welcome (30 Min)
      - Speaker TBD
    - 1:30pm to 2:30pm – Science DMZ Intro/Architecture (1 Hr)
      - Jason Zurawski - ESnet
    - 2:30pm to 3:00pm – perfSONAR/Network Monitoring #1 (30 Min)
      - Jason Zurawski - ESnet
  - Break (3:00pm to 3:30pm)
  - Afternoon 2 (3:30pm to 5:00pm)
    - 3:30pm to 4:30pm – perfSONAR/Network Monitoring #2 (1 Hr)
      - Jason Zurawski - ESnet
    - 4:30pm to 5:00pm – DTN Introduction (30 Min)
      - Jason Zurawski - ESnet
  - Unstructured Dinner (7pm?)
    - Self Organize

- ***Day 2 (5 Hr Content, 7.5 total) Sciene DMZ (Cont.) and SDN Topics***
  - Morning 1 (8:00am – 9:30am = 1.5 Hr)
    - 8:00am to 8:40am – DTNs (40 Min)
      - Jason Zurawski - ESnet
    - 8:40am to 9:00am – Globus Online (20 Min)
      - Raj Kettimuthu - ANL/GO
    - 9:00am to 9:30am – Community Discussion – DMZ (30 Min)
      - Jason Zurawski - ESnet
  - Break (9:30am - 10:00am = 30 Min)
  - Morning 2 (10:00am – 12:00pm)
    - 10:00am to 11:30pm - SDN Context, Building Blocks/SDN Models & hands-on (1.5 Hr)
      - Speaker TBD (IU)
    - 11:30am to 12:00pm – Considerations for SDN Hardware & Software (30 Min)
      - Speaker TBD (IU)
  - Lunch (12:00pm – 1:00pm)
  - Afternoon (1:00pm to 3:30pm)
    - 1:00pm to 1:30pm – SDN Testing/Validation (30 Min)
      - Speaker TBD (IU)
    - 1:30pm to 3:00pm - SDN Troubleshooting & exercise (1.5 Hr)
      - Speaker TBD (IU)
    - 3:00pm to 3:30pm – Community Discussion - SDN (30 Min)
      - Speaker TBD (IU)

Jason Zurawski 9/16/13 11:03 AM

Comment [1]: Tracy noted that it may be an 8:30am CDT start. If that is the case push it all back 1 half hour, or steal time from AM break and Lunch.

Bank of time (9.5 hr total):

- .5 Welcome/Introduction/Administravia
- 4 Hr of DMZ Content
    - 1 DMZ Architecture
        - Principals of TCP, scientific workflow requirements
        - Network designs (positive and negative). Mentions of the converged network architecture and how it goes against scientific use cases
        - DMZ examples and use cases (standard, data center/cluster/super computer, SDN integration, HIPA?)
        - Brief security overview (services, policies, components [e.g. bro?]
    - 1.5 perfSONAR [possible Live Demo/Hands on – survey pending]
        - performance basics
        - pS Performance Toolkit installation & configuration
        - What the tools tell you
        - Hardware choice/network placement
    - 1.5 DTN & Globus Online [possible Live Demo/Hands on – survey pending]
        - Construction
        - Integration into network architecture
        - Using Globus Online (demo from GO/ANL staff member)
- 4 Hr of SDN Content
    - Context, SDN Building Blocks/SDN Models & initial Hands-on (1.5hr)
        - Why might a campus need SDN?
        - What are the components of SDN?
        - How might SDN be deployed on a campus network?
        - Hands-on: Build an SDN network
    - Considerations for SDN Hardware and Software(.5hr)
        - Switch considerations
        - Controller considerations (hardware, placement, software options)
        - What is the landscape of capabilities today?
    - SDN Troubleshooting and exercise (1.5hr)
        - SDN troubleshooting approach vs traditional troubleshooting
        - Case studies
        - Hands-on: find the problem!
    - SDN Testing/Validation (.5hr)
        - Why a campus needs to do testing
- 1 hr Community Discussion/Next Step
    - .5 for DMZ, in DMZ section
    - .5 for SDN, in SDN section

Chicago 2 Day WS Agenda (Strawman)

- *Day 1 (7 hrs) Science DMZ:*
  - Morning 1 (8-10 = 2hrs)
    - 1hr introduction, purpose (keynote from local sponsor or ESnet/IU/Internet2 staff?)
    - 1hr invited talk on DMZ or performance (UIUC [Nick Buraglio] is the likely choice for DMZ. PSU [Ken Miller] could address perfSONAR topics)
  - Break
  - Morning 2 (1030 -12 = 1.5 hrs)
    - 1.5 hr Science DMZ Architecture (may shrink to 1 hr depending on materials we wish to push)
  - Lunch (12 – 1)
  - Afternoon 1 (1 – 3 = 2hrs)
    - 1.5 hr DTN construction/use of Globus (may get extra time from architecture section)
      - Possible to invite someone from ANL/Globus Online to present some of this.
    - .5 hr perfSONAR & performance (1)
  - Break
  - Afternoon 2 (3:30 – 5 = 1.5 hrs)
    - 1 hr perfSONAR & performance (2 – may get extra time from architecture section)
    - 0.5 hr closedown/summary/questions, etc.

- *Day 2 (7 hrs) SDN:*
  - Morning 1 (8-10 = 2hrs)
    - .5hr invited talk on SDN topic (Wisconsin? Someone Else?)
    - Context, SDN Building Blocks/SDN Models & initial Hands-on (1.5hr)
  - Break
  - Morning 2 (1030 -12 = 1.5 hrs)
    - <cont'd>Context, SDN Building Blocks/SDN Models & initial Hands-on (.5hr)
    - Considerations for SDN Hardware and Software(1hr)
  - Lunch (12 – 1)
  - Afternoon 1 (1 – 3:30 = 2.5hrs)
    - SDN Troubleshooting and exercise (1.5hr)
    - SDN Testing/Validation (.5hr)
    - Wrap-up, next steps, etc. (.5 hr, read out lead by ESnet/IU/Internet2 steering committee member)

Bank of time (14hrs):

- 2 hr of warmup/closedown (1st and last day)

- 2hrs of community content (1 each day)
    - 1hr SDN Focused
        - Dale Carder (UWisc) on GENI?
    - 1hr DMZ/performance focused
        - UIUC [DMZ]?
        - Penn State [perfSONAR]?
- 10 hrs of content
    - 5 dmz
        - 1.5 architecture
            - Principals of TCP, scientific workflow requirements
            - Network designs (positive and negative). Mentions of the converged network architecture and how it goes against scientific use cases
            - DMZ examples and use cases (standard, data center/cluster/super computer, SDN integration, HIPA?)
            - Modern security overview (services, policies, components [e.g. bro?]
        - 1.5 DTN (possible hands on using GO software on personal laptops)
            - Construction
            - Integration into network architecture
            - Using Globus Online (demo from GO/ANL staff member)
        - 1.5 perfSONAR (possible hands on using Internet2 VMs)
            - performance basics
            - pS Performance Toolkit installation & configuration
            - What the tools tell you
            - Hardware choice/network placement
        - .5 summary/spill + open forum questions
    - 5 openflow
        - Context, SDN Building Blocks/SDN Models & initial Hands-on (2hr)
            - Why might a campus need SDN?
            - What are the components of SDN?
            - How might SDN be deployed on a campus network?
            - Hands-on: Build an SDN network
        - Considerations for SDN Hardware and Software(1hr)
            - Switch considerations
            - Controller considerations (hardware, placement, software options)
            - What is the landscape of capabilities today?
        - SDN Troubleshooting and exercise (1.5hr)
            - SDN troubleshooting approach vs traditional troubleshooting

- Case studies
- Hands-on: find the problem!
- SDN Testing/Validation (.5hr)
  - Why a campus needs to do testing

Appendix 1: Old DC WS Agenda

Day 1:

- 8:30a-1p: Openflow Tutorial
- 1p-2p: lunch
- 2p-5:30p:
- (10m) Introduction, explanation of agenda, expectations: **JP/I2**
- (30m) Context for Innovation on Campus: **Eric**
- (90m) Use cases in the next year on campus, and their design scenarios
- GENI: **Heidi**
- OESS, with roadmap: **Eric**
- Science DMZ: **Eli**
- Clemson use cases: **Jim/Kate**
- Other potential scenarios: **IU delegate**
- generalize the typical ways SDN may look. Show 3-4 net diagrams that'll be used in later talks
- (10m) break
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- (90m) Lightning Talks from participants: What is each network look like today for SDN and Science DMZ, What is each doing in the next year, and what is each interested in beyond the first year?: **E3-5 minutes, 3 slides per participant**

Day 2:

- 9a-12:30p:
- (10m) re-introduction, summary of second day agenda: **JP/I2**
- (90m) Factors in Hardware and Software Collection: **Ed**
- (10m) break
- (90m) Testing & validation of installation: **Ed**

- 12:30p-1:30p: lunch
- 1:30p-3:30p:
- (90m) Troubleshooting: **Panel**
- case studies
- missing pieces
- tools
- processes
- feedback loop into development
- skills
- (30m) Wrap-up: **JP/I2**
- reinforce context, relationship between SDN, DMZ, and Data Intensive networking
- how to work through details
- Future needs, Layer3 SDN, virtualization, peering
- Further engagement, forums for engineers

other topics for network engineers in the future