ADAPTATIONS TO COVID-19: HOW WORKING REMOTELY HAS MADE TEAMS WORK EFFICIENTLY TOGETHER

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NIF Control System Updates

- **Software releases are done quarterly, with 2 to 3 patches in between**

- **Involves operations, hardware, and software teams**

- **Software releases consists of**
  - **Database release dry run and verification**
  - **Deployment**
  - **Regression testing**
  - **Test shot**

Pre-Pandemic Software Releases

- **Database update and verification are done in the control room.**

- **Software engineers pair up with operational staff in the control room to do regression testing.**

- **Coordinated by the release manager who is also in the control room.**

- **When LLNL went into Minimum Safe Operations in March 2020, only essential personnel were allowed onsite. Most staff were required to work from home.**

To continue software releases and comply with COVID-19 safety protocols, these steps needed to be done outside of the control room.

Leveraging Cloud Collaboration Platforms

Virtual desktops provided a secure access to production environment.

Smart phones and Cisco Webex provided a secure one-to-one audio/video communication between software engineers and operational staff, replacing the need for physical pairing inside the control room.
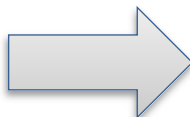
Cisco Webex Meetings

Microsoft Teams facilitated online collaboration among remote and onsite teams

Microsoft Teams

Adapting to COVID-19 restrictions led to a better and more efficient way of conducting software releases.

Remote Software Releases Facilitated Online Collaboration

The COVID-19 restrictions forced us to rethink our software release process. These adaptations to COVID-19 led to a better and more efficient way of conducting the NIF ICCS software releases.

Benefits of Remote Software Releases

- **Met COVID-19 social distancing requirements**

- **Software team work on their own workstations**
  - **Access to their computer and developer tools makes them more effective in supporting the release.**

- **More comfortable working environment for the operational staff working inside the control room**

- **Facilitated online collaboration**
  - **Release status shared online increased team awareness**
  - **Faster to escalate and fix problems**
  - **Escalations and resolutions recorded in the release channel**

- **Able to train new hires by having them join the online meeting and watch as their mentor execute the software update procedures**

Better coordination, communication, and documentation for the release.

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