Going Green with Warm-Start Drivers

There is a lot of talk about greening up our networks. Whether it is applying new technologies like PON for building distribution or just better designs to lower power consumption, greening up is something that network equipment providers need to be aware of; it is likely to come up in selling discussions.

Sometimes greening up can happen by implementing technologies with dual purposes. Depending on the network, that might be the case with the warm-start option. The presence of the ability to update software without impacting current traffic and calls can also be used to reduce network power consumption.

In the case of NComm OAM (Operations, Administration and Maintenance) software, the primary OAM algorithmic code manages the hardware by a hardware specific driver. The driver receives various state information from the network and passes it to the primary code for collection, interpretation and action if required. At the same time, commands from the network operators, alarm states and changes are passed down to the driver for local hardware use or to be passed through the network. In the normal mode, everything is closely linked and synchronized.

In warm-start mode, things happen a little differently. The driver temporarily disconnects OAM algorithmic code from managing the hardware. Now that the OAM algorithmic code is disconnected from the hardware, Warm-start allows the OAM code to be updated without the need to bring the entire system down. Whether for an upgrade, or to reload the code due to some corruption or glitch, the code can be reloaded with little or no service impact.

During warm-start mode, you will lose the OAM functions including alarm processing, performance monitoring data collection and loop-back abilities. In a traditional telephony network, call processing will stop so that new calls cannot be established; however, any calls that are active will remain connected. On the plus side, the data network will continue passing data as before. As long as there are no catastrophic problems, data connectivity will remain as before. Thus, upgrading the OAM software will allow a system to continue to pass data during the upgrade.

So, how can warm-start help us to be a little greener? When the main software is isolated from the hardware, that software really does not have to be working at all. If it is not working, the power consumption of the whole system will be reduced. We just made our part of the network greener! How much depends on the equipment used and the normal load, but it is certainly more green than before.

Why would we turn off our OAM function off? Well, in normal situations we wouldn't. However, there may be some times when we can particularly in data networks. If a network is lightly used and not mission critical during evening hours, it may be fine to disable the OAM activities during this period. Provided nothing goes wrong, the data will flow oblivious to the lack of alarm and performance monitoring processing. Further, if the network is only up at night as a convenience; if the network should go down, the effect then is nothing but an inconvenience.

Is using warm-start by itself going to greatly reduce your network's carbon footprint? No, but the NComm warm-start can be a part of a larger green scheme that can provide options to reduce power consumption. It can give your customers and prospects alternatives to meet their perceived social responsibilities, or hard mandates. The ability to update software without network interruption is a great option in itself. Isn't a greener product at the same time even better? It's just one more reason for your prospects to pick you and your customers to stay with you.

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