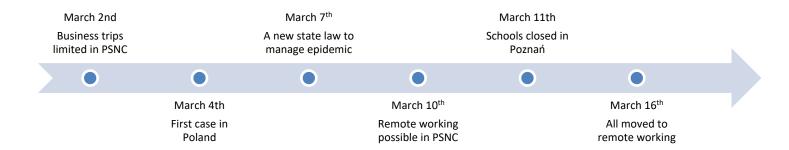




General timeline and company responses



- Only single key person from each team physically present in the premises
- All non-outage related trips postponed
- NOC specific
 - NOC is somehow separated by itself
 - 2 separate NOCs
 - 1+2 persons on duty
 - Separated by locations and services
 - But BMS and remote-hands require us to keep NOC staff



Personnel safety first

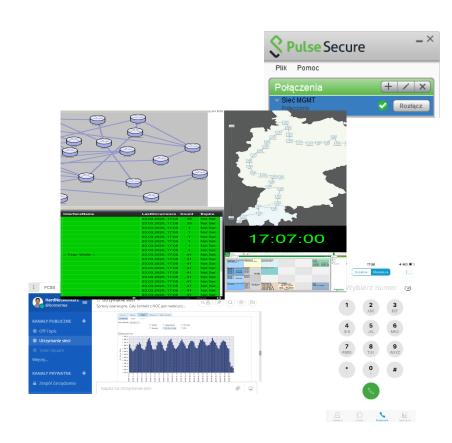
- Placed hand sanitizers in NOC rooms
- Placed disinfectant in NOC rooms for equipment cleaning
- Increased the frequency and range (desks, door handles) of cleaning operations
- Provided protective gloves
- Changed colocation visit procedures to limit the in-building walks
 - Provide additional guidelines to customers and urge to postpone unnecessary maintenance
- Used thermal cameras where possible (still in testing)
- Maintain communication to NOC staff





Technical supporting solutions

- Mostly not specific for the NOC itself but as part of the company's solutions
- VPNs
 - Provide access to mission critical infrastructure and applications
 - PulseSecure
- Phone redirection and/or software client usage
 - Cisco Jabber
- Messaging platform
 - Own instance od Mattermost
- Remote access to NOC's videowall (real operator's view)
 - Barco CMS





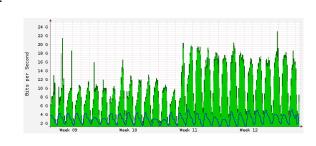
Challenges

- NOCs need to maintain physical presence
- NOC staff are not dedicated engineers
 - Cannot work remotely
- Contingency planning anticipates replacement rules for missing shifts
 - Achieved via NOC personnel replacement
 - Exceptions covered by members of Network Management Team and Services Team
 - Still physically present in PSNC premises
 - But not full NOC closure
- Can't do remote
 - BMS
 - Fire detection and distinguishing system
 - Manual interventions e.g. wrt power outages



Contingency planning

- Reviewed Business Continuity Plans
 - Some already ready for ISO-27000
 - Reviewed risk assessment
 - Immediate UPS and generator tests (some failed ⊕)
 - Reviewed plans for switching off services in case of longer power outages
 - Keep key infrastructure running as long as possible
- Intensified network and services monitoring
 - Network impact is not that significant
 - Increased demand for services (VC)
 - Need to observe the government rules that apply for network operator
 - Watch for possible DoS attacks for key services





Additional materials

- By Uptime Institute
 - COVID-19: Minimize Critical Facility Risk On-Demand Webinar
 http://go.the451group.com/yGODYJmg0o0eYYA0jS00
 010
 - COVID-19: Minimizing Critical Facility Risk Report http://go.the451group.com/gC0Yjge0J10GYY0oD000
 http://go.the451group.com/gc0Yjge0J10GYY0oD000
 http://go.the451group.com/gc0Yjge0J10GYY0oD000
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