Tips, Tools, Techniques for Remote Workers

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## ARIN Before Covid-19

**“Our ARIN Engineering Team had an Important Advantage”**

### Requirements to work remotely
- for those who travel and work remotely
- for times of adverse weather
- Existing work from home policy

### Tools for all to work remotely
- All tools work over IP - including helpdesk and call center
- Internal tools available over the VPN
- Require Two-factor (2FA) authentication to VPN

### Remote admin of laptops
- Able to remotely diagnose issues
- Remotely add/remote software packages

### Ticketing system
- Allows users to submit trouble tickets for issues

### Lots of practice
- Large snowstorms kept the office closed for days
- Culture of working from home

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*ARIN/CaribNOG Webinar Series*
Experience Helped … A Lot!

Lots of practice over the years

- Large snowstorms kept the office closed for days
- Working from home
- All employees now have company-issued laptops

We knew our weaknesses based on experience

- VPN did not work well while running with high-bandwidth applications like Zoom & YouTube
- Was running older hardware that handled a good number working remotely

Management developed a multi-phase approach

- Discrete events gave us some time
- Allowed the IT staff to have time to build out new VPN servers to handle the entire office.
- Planned a work from home day for staff – practiced remote meetings from within our office
- Rolled out a segmented VPN service to route only traffic destined to the office through the VPN
What’s In The ARIN Toolkit

COMMUNICATION
- Email, Slack, texts, Zoom for larger meetings, Slack video conferencing and Google Hangouts for smaller informal chats

VPN with 2FA AUTHENTICATION
- OpenVPN and duo; Viscosity for Macs and Windows

REMOTE ADMINISTRATION
- Jamf for Macs; Manage Engine for Windows

OTHER TOOLS
- VOIP via Asterix PBX
- Atlassian tools for overall builds, etc.
- Local git repositories for all developers
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