



**Goodman**  
School of Business

**Goodman**  
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**Brock University**

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Welcome to Business Breathers

**Zero Trust and the Edge of the Network:  
Cybersecurity and Working Remotely**

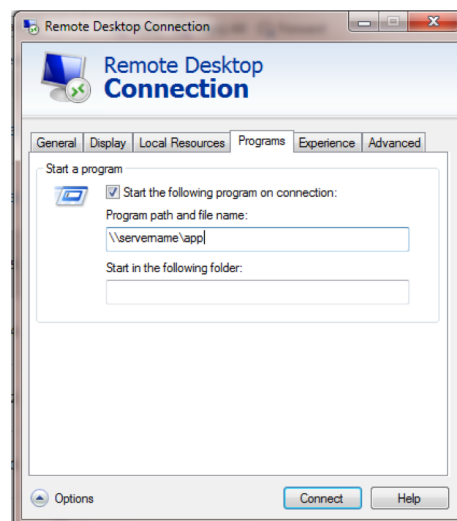
Dr. Aaron Mauro  
Assistant Professor, Brock University

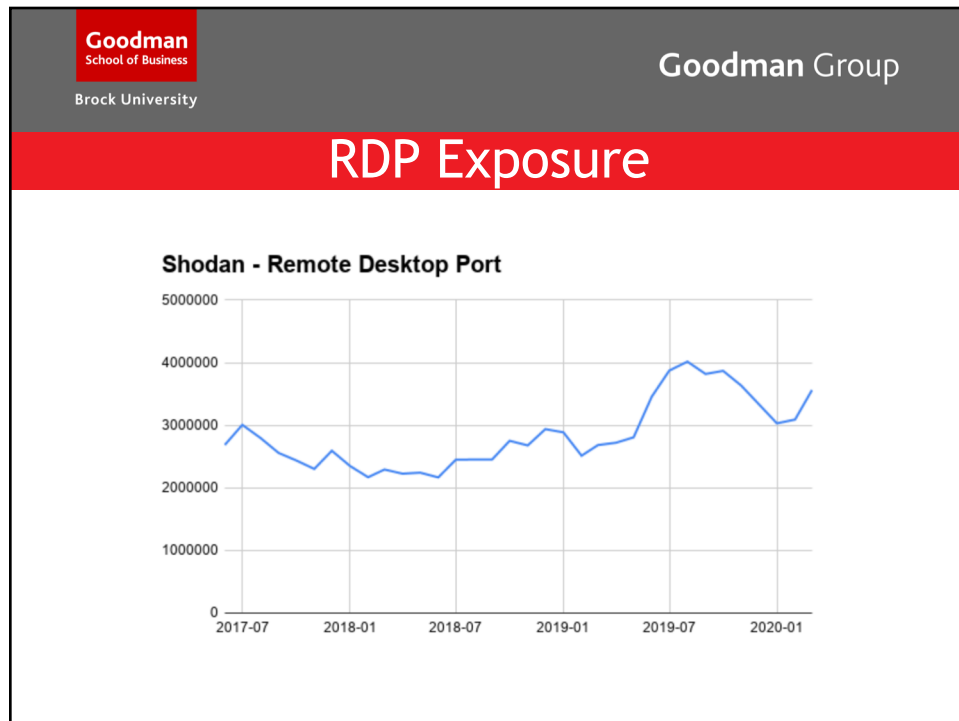
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## Agenda

- How has COVID-19 shaped the security issues?
- What are the security risks associated with working at home?
- What practical steps can individuals take to minimize security risks?
- What kind of security infrastructure should we build after COVID-19?

## Remote Desktop Protocol (RDP)





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## Ransomware

**BBC** | Sign in | Home | News | Sport | Reel | Worklife | Travel

### NEWS

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Health | Coronavirus

## NHS cyber-attack: GPs and hospitals hit by ransomware

© 12 May 2017



## Risks of Working from Home

- Bring your own device (BYOD)
- Residential Internet Service Provider (ISP)
- Employee configured WiFi access
- Disrupted or irregular communication patterns

## Edge of the Network

### Cloud Services

Third party cloud services are accessed alongside critical institutional infrastructure.



### Internet Service Providers

Employees are using home and mobile internet to access resources from a range of providers.



### Edge Network Access

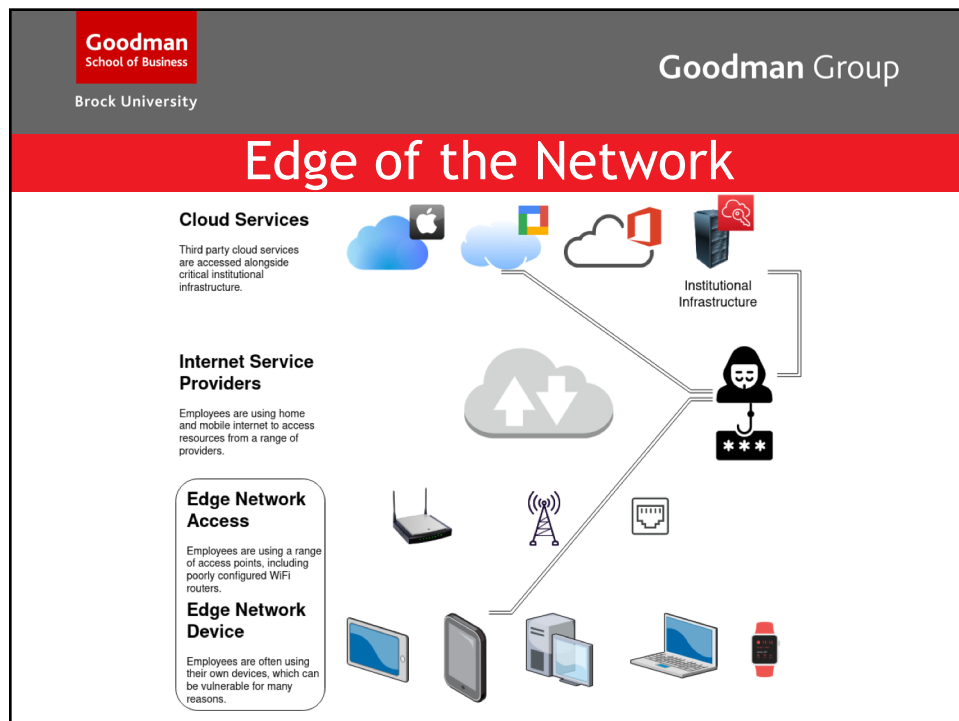
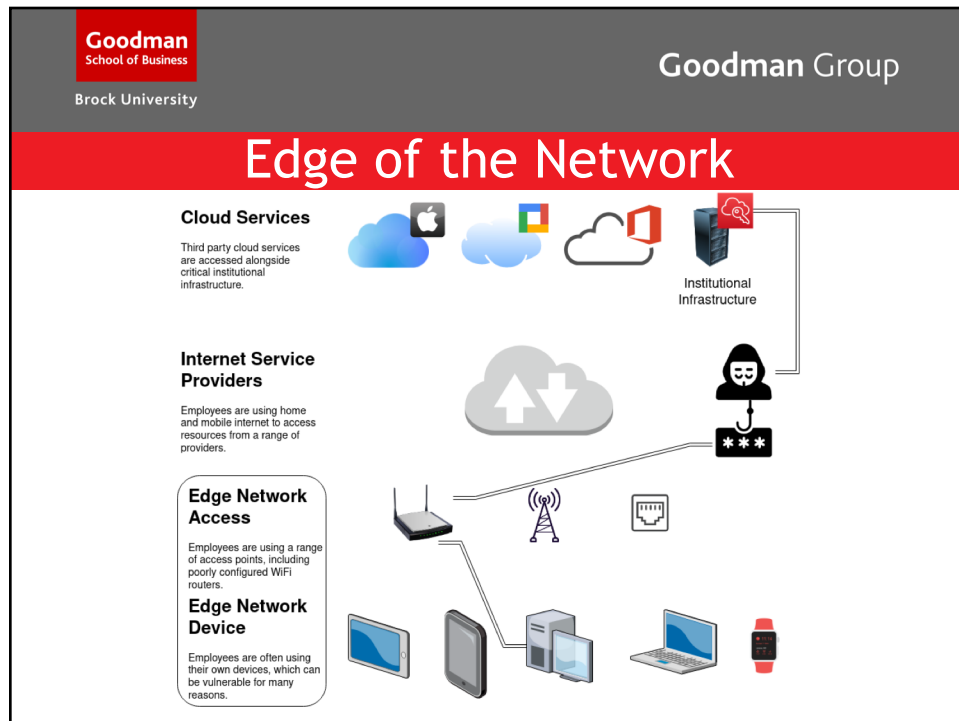
Employees are using a range of access points, including poorly configured WiFi routers.



### Edge Network Device

Employees are often using their own devices, which can be vulnerable for many reasons.





## At Home Security Practices

- **BYOD**
  - Update your operating system regularly
  - Use strong passphrases
  - Use Second Factor Authentication (2FA)
  - Use a mainstream browser
  - Update your browser regularly
  - Avoid browser plugins
  - Avoid Electron based desktop apps
  - Use mobile device for simple tasks

## At Home Security Practices

- **Network Access**
  - Buy a new WiFi router
  - Update router firmware
  - Use strong passphrases
  - Avoid naming your router in an identifying way
  - Configure your router:
    - Avoid Wired Equivalent Privacy (WEP)
    - Disable Wi-Fi Protected Setup (WPS)
    - Use Wi-Fi Protected Access 2 (WPA2)
    - If able, also use Advanced Encryption Standard (AES)

## At Home Security Practices

- Regular Communication Practices:
  - Separate personal and professional communication
  - Use a single platform to communicate
  - Do not load images by default in email
  - Do not open unexpected files
  - Seek confirmation from sender before opening
  - Hover over links to ensure the correct destination
  - Slow down
  - When in doubt, ask

## Post COVID-19 Security

- Working remotely (in part) is our new normal
- Edge network access and devices will be varied and unpredictable
- Threat actors are technical, international, and highly motivated
- Ransomware attacks are proliferating and can cripple corporations, public institutions, and governments
- Cybersecurity insurance costs are increasing



## Post COVID-19 Security

- Zero trust architecture is a new, evolving standard predicated on the following:
  - Single strong source of user identity
  - User authentication
  - Machine authentication
  - Additional context, such as policy compliance and device health
  - Authorization policies to access an application
  - Access control policies within an application



[ DATA PROTECTION ]

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**CYBER SECURITY SEMINAR**

January 26 - 27, 2021

**PRICING**

[Register on brocku.ca/goodman-group/](https://brocku.ca/goodman-group/)

Non-members (membership included for Ontario Institute only)\* \$895.00 + HST

\*Until April 30, 2021

**Goodman Group**

Thank you for joining us.

See you in 2021!

Next session will take place on January 13, 2021

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