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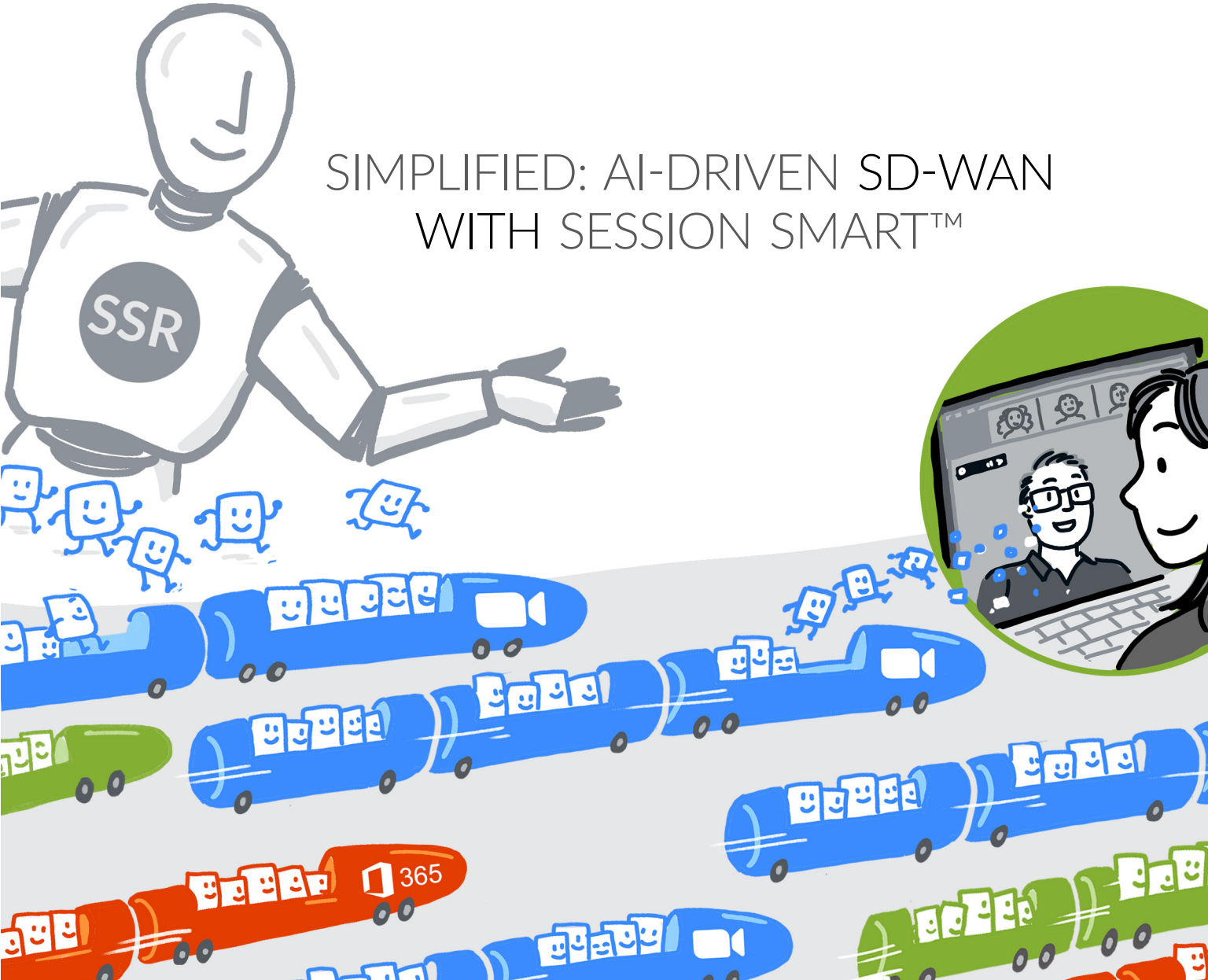
SIMPLIFIED: AI-DRIVEN SD-WAN WITH SESSION SMART™



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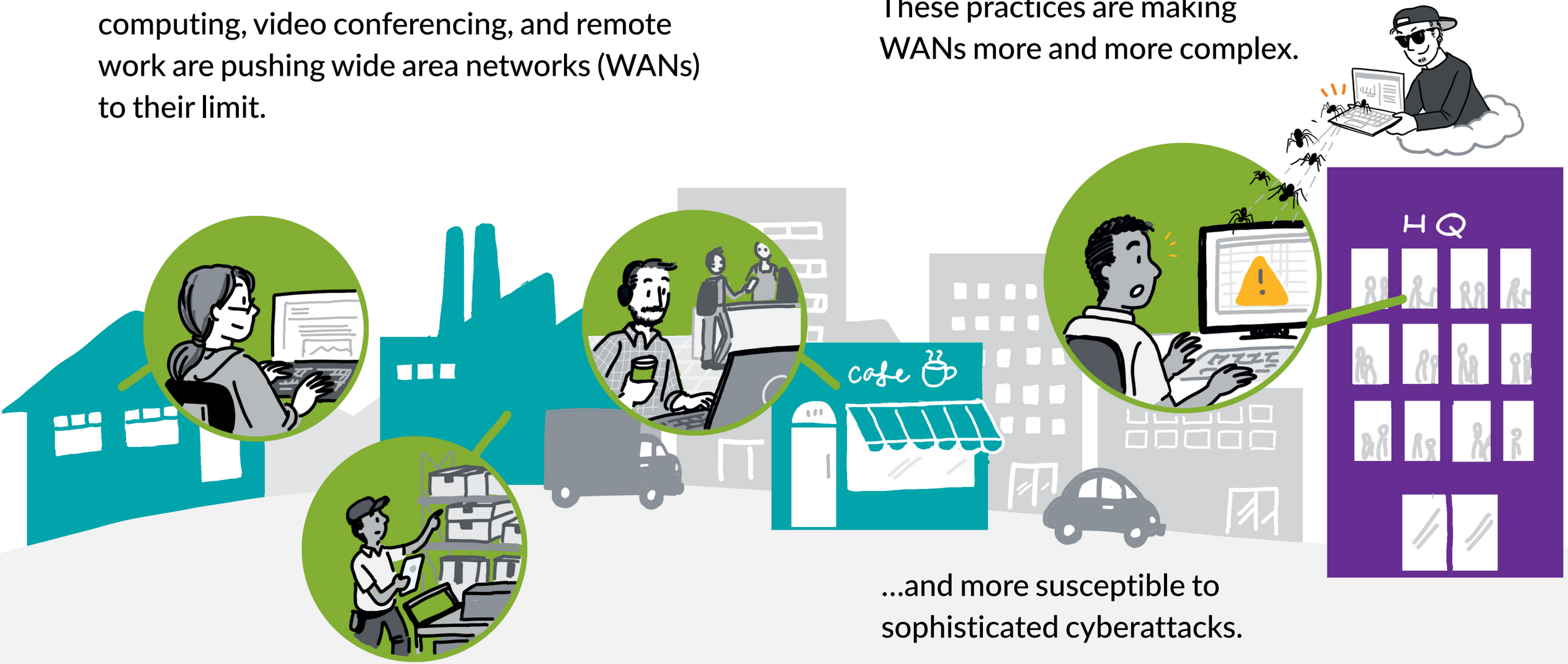
Modern business practices such as cloud computing, video conferencing, and remote work are pushing wide area networks (WANs) to their limit.

These practices are making WANs more and more complex.



...and more susceptible to sophisticated cyberattacks.

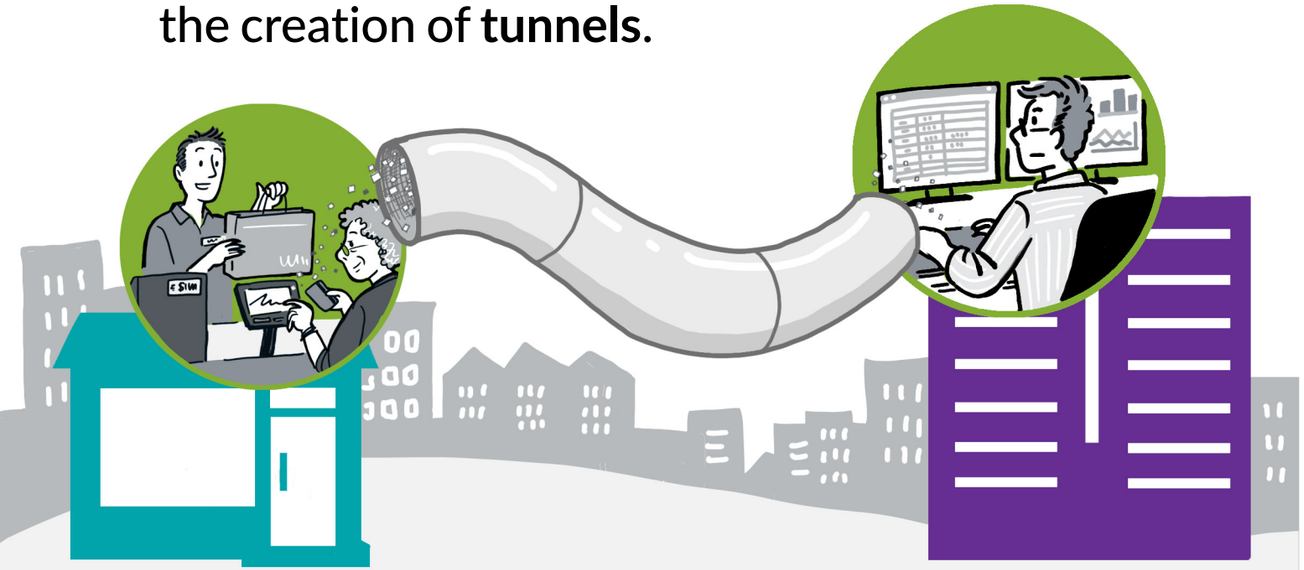
Software-defined wide area networks (SD-WANs) help this with complexity.

SD-WANs are more agile than traditional WANs. They make setting up new applications and services faster and easier.

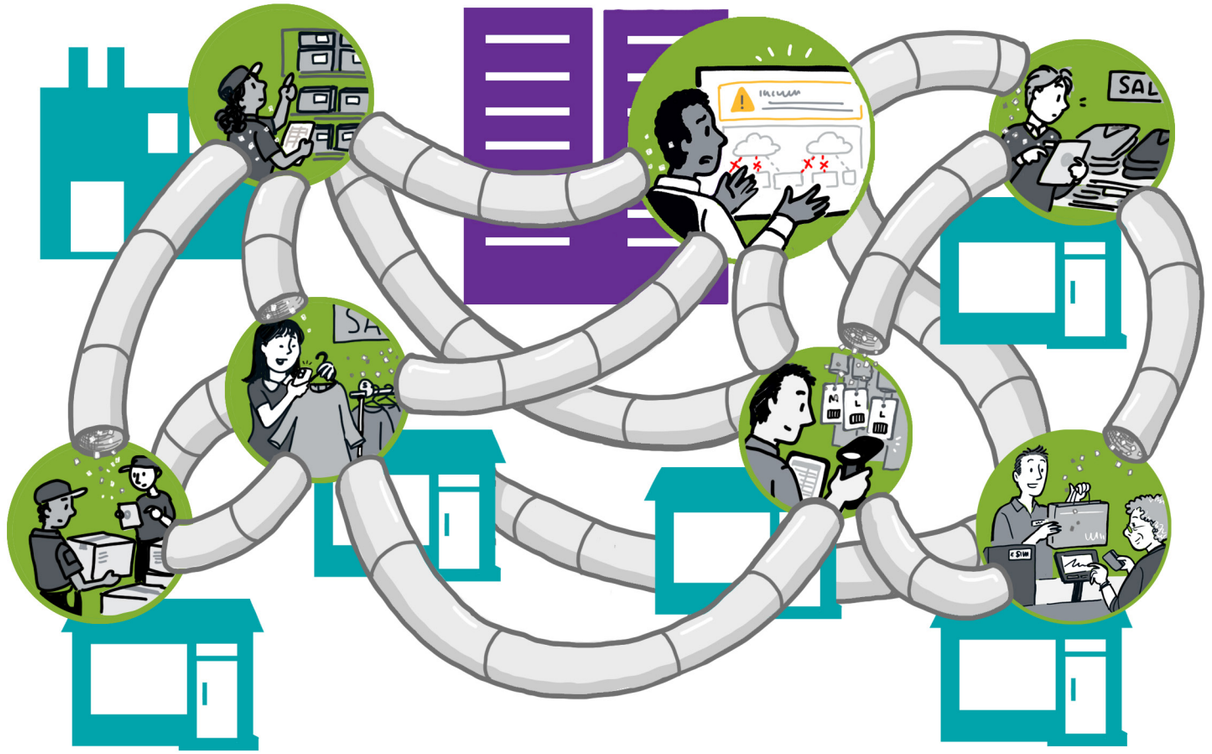
They also allow companies to choose the best path for different application traffic, improving speed and user experience.

While SD-WANs help with complexity, many are still problematic.

Why? Most SD-WAN solutions work through the creation of **tunnels**.



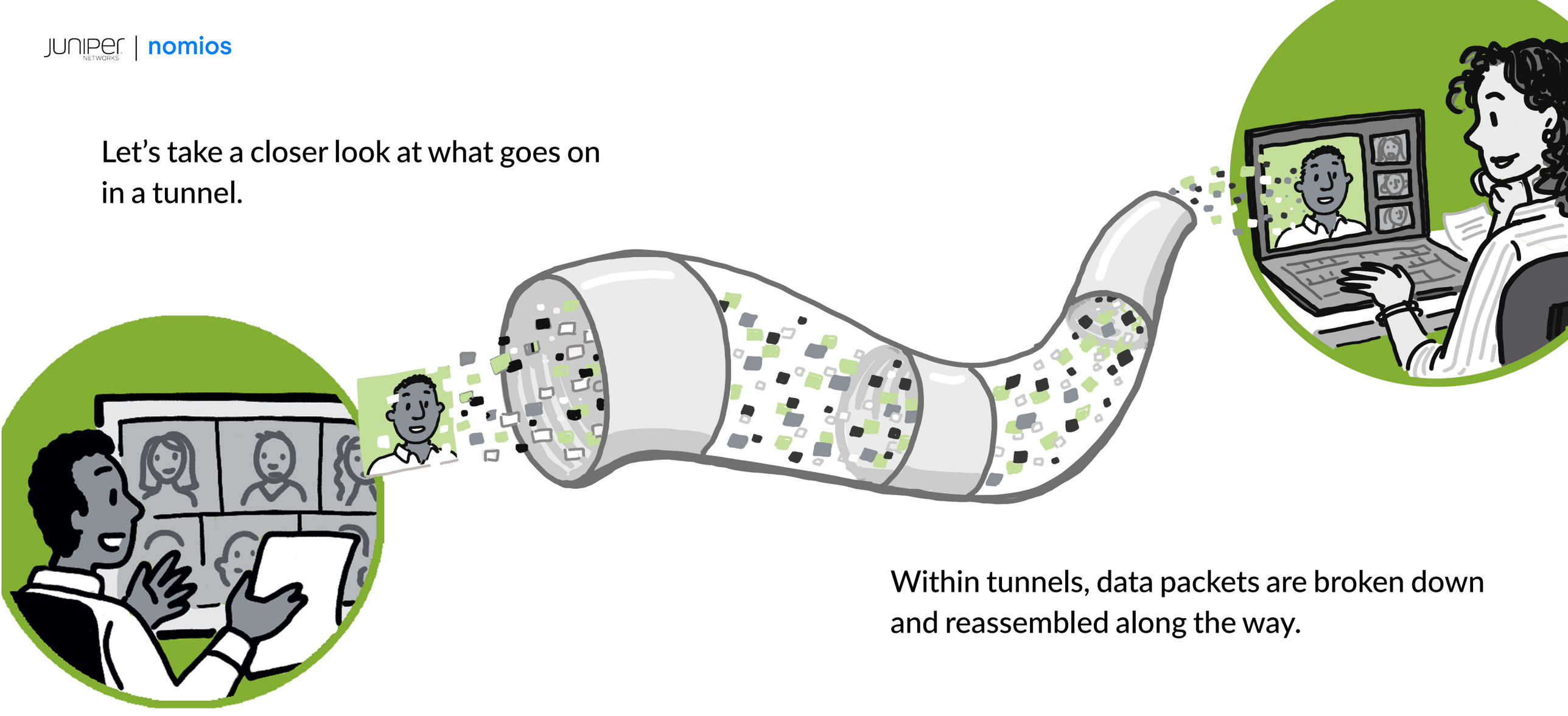
A tunnel establishes a direct connection between two endpoints, like a company's headquarters and their branch stores.



Establishing tunnels between every site in a network can take a long time and can easily become complicated.

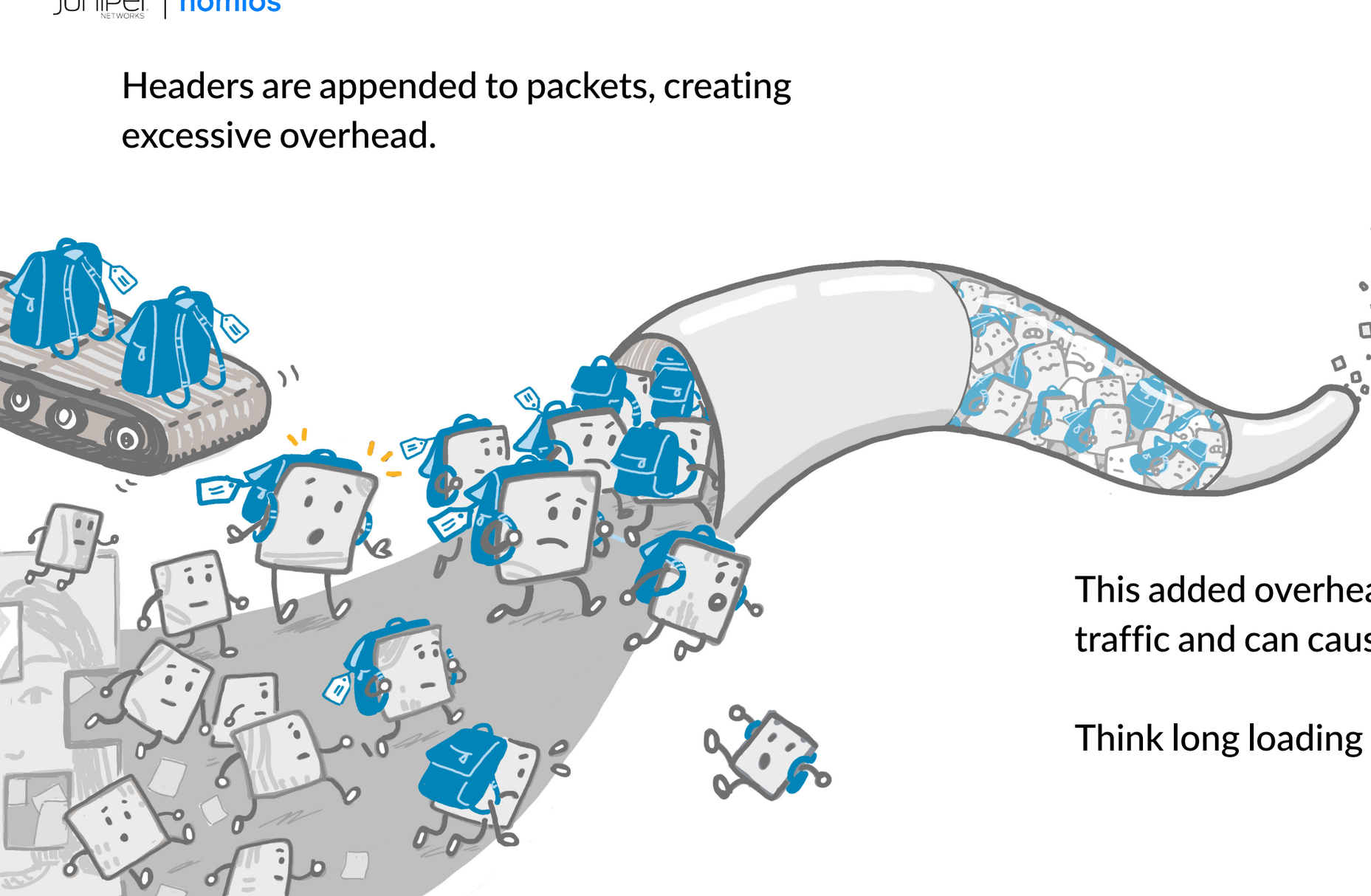
This is where problems can occur.

Let’s take a closer look at what goes on in a tunnel.



Within tunnels, data packets are broken down and reassembled along the way.

Headers are appended to packets, creating excessive overhead.

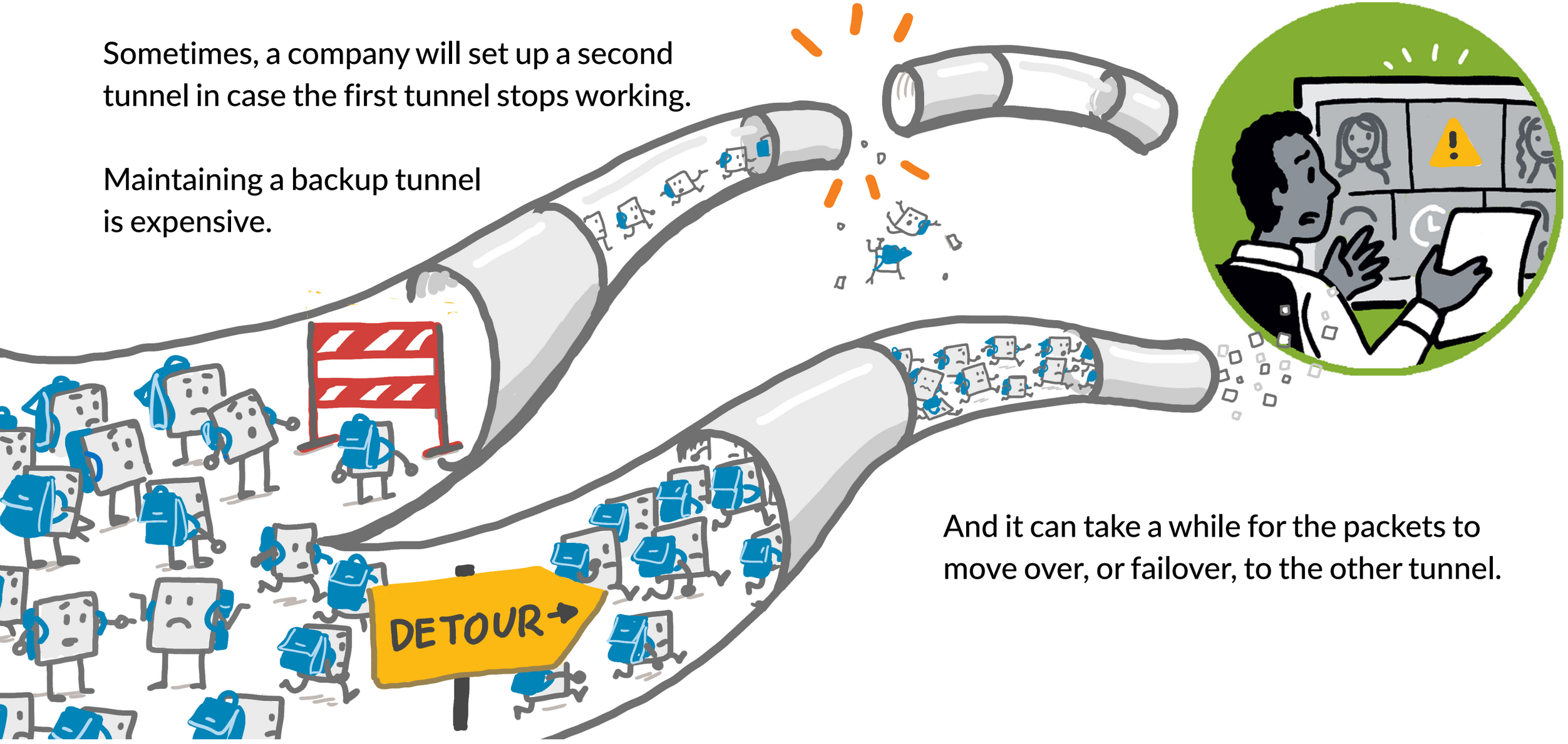


This added overhead slows down network traffic and can cause poor user experiences.

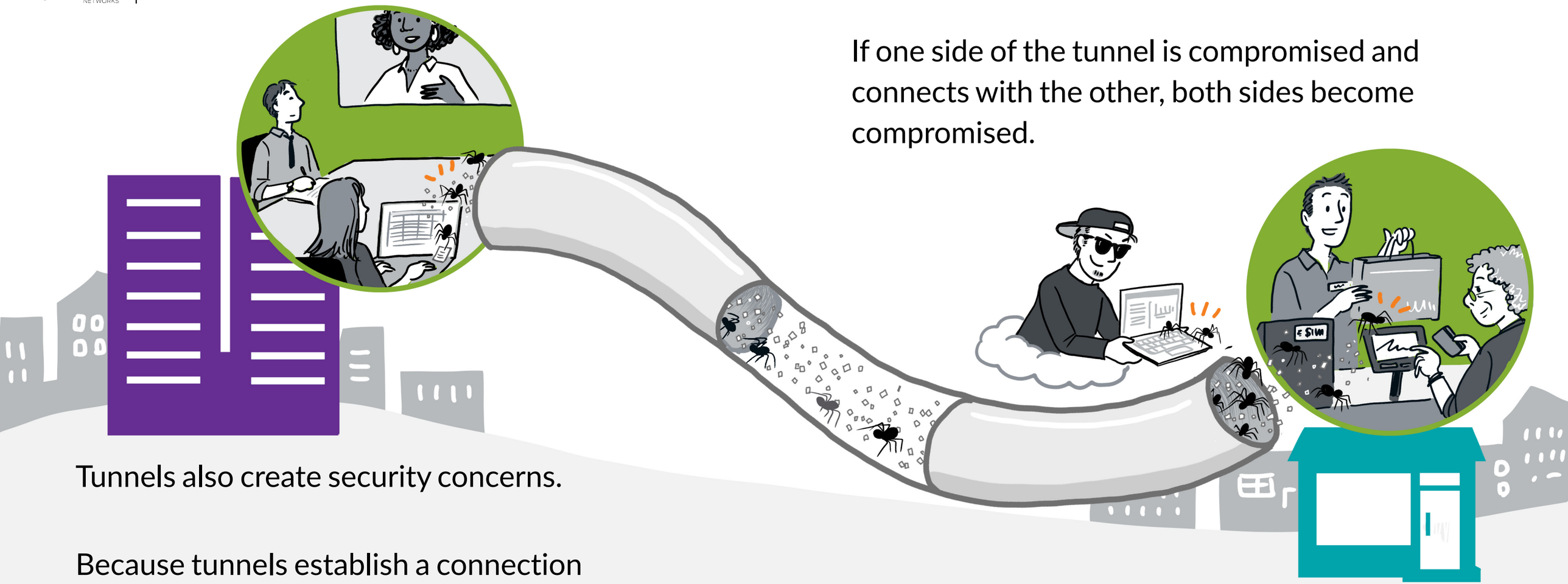
Think long loading times and choppy video calls.

Sometimes, a company will set up a second tunnel in case the first tunnel stops working.

Maintaining a backup tunnel is expensive.



And it can take a while for the packets to move over, or failover, to the other tunnel.



If one side of the tunnel is compromised and connects with the other, both sides become compromised.

Tunnels also create security concerns.

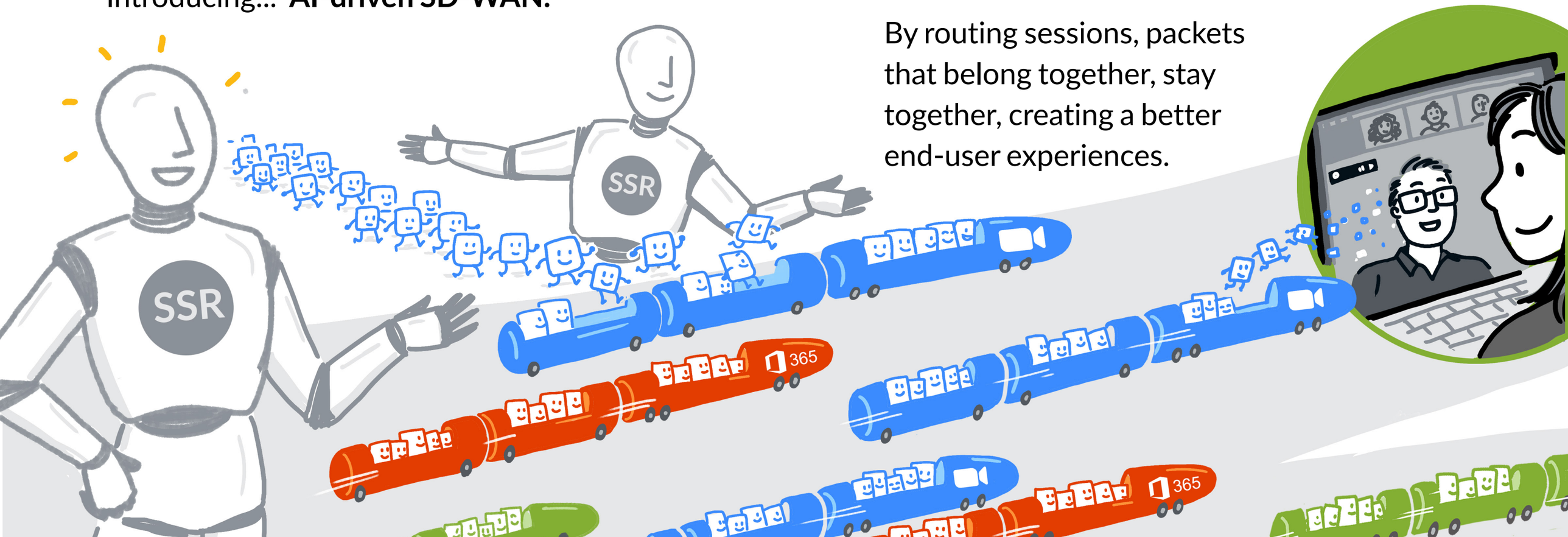
Because tunnels establish a connection between two devices, either side of the tunnel can send traffic to the other.

Fortunately, there is a way to securely connect locations without tunnels.

Introducing... **AI-driven SD-WAN.**

AI-driven SD-WAN uses intelligent, Session Smart Routers to guide sessions instead of individual packets – all without tunnels.

By routing sessions, packets that belong together, stay together, creating a better end-user experiences.



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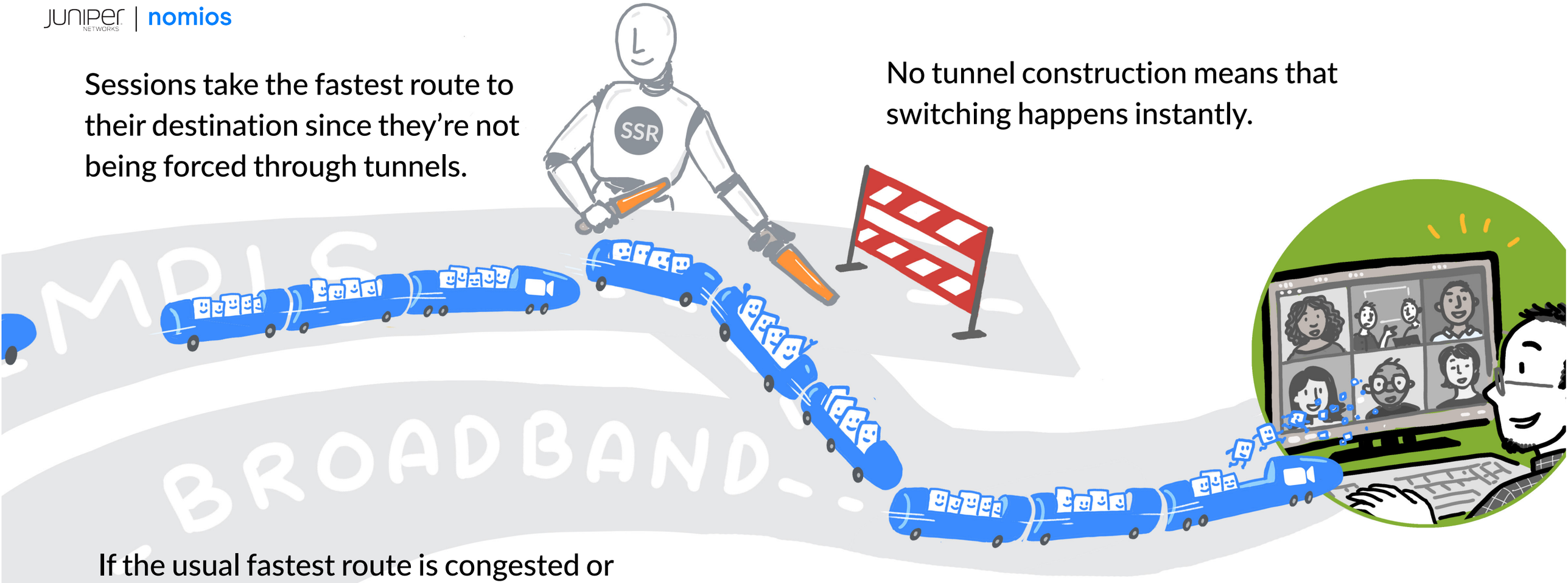
Sessions take the fastest route to their destination since they're not being forced through tunnels.

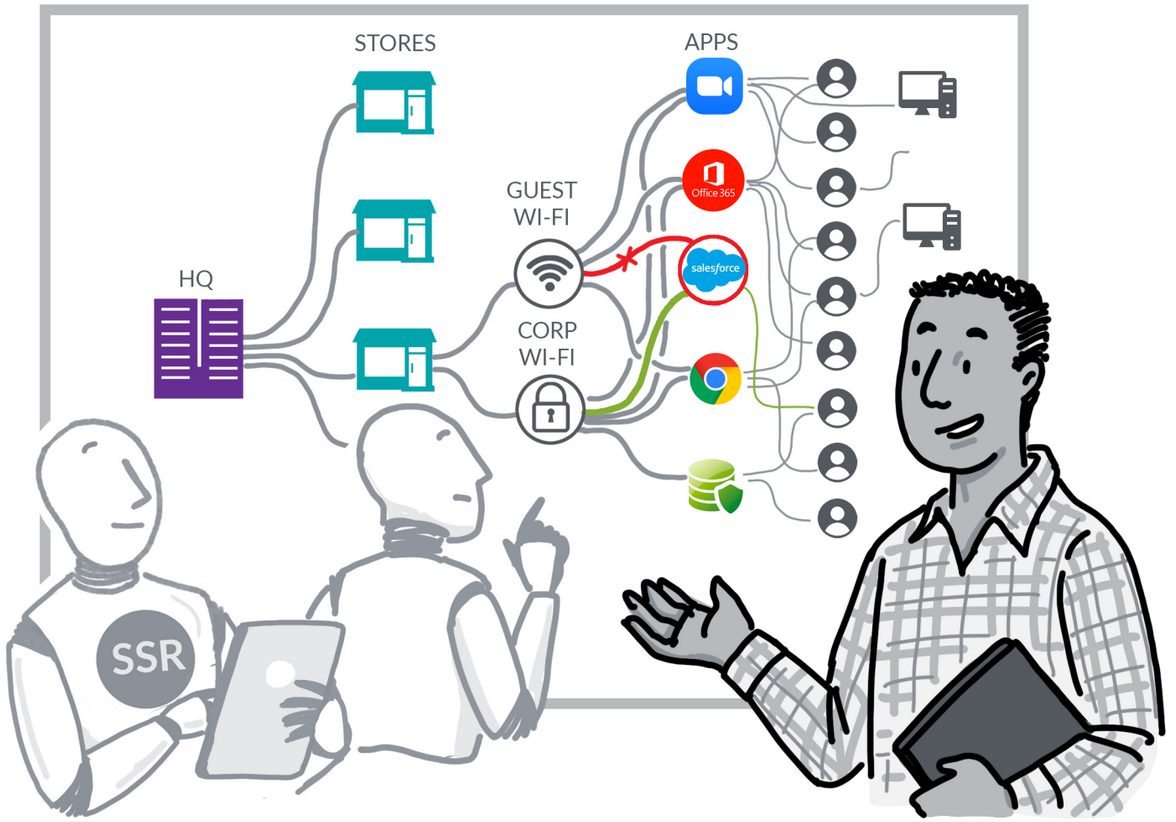
No tunnel construction means that switching happens instantly.



If the usual fastest route is congested or fails, then the sessions are quickly routed to a faster path.

This means people on live video conferences or calls won't experience any interruptions.

Juniper's Session Smart Routers understand the applications and users on the network.



This allows network admins to establish rules for every user and device based on security and priority.

For example, if an inventory stock worker tries to get to the sales database app, the router will deny them access.

With AI-driven SD-WAN, only the users given permission will be able to access specific applications.

This is called **Zero Trust Network Access or ZTNA.**

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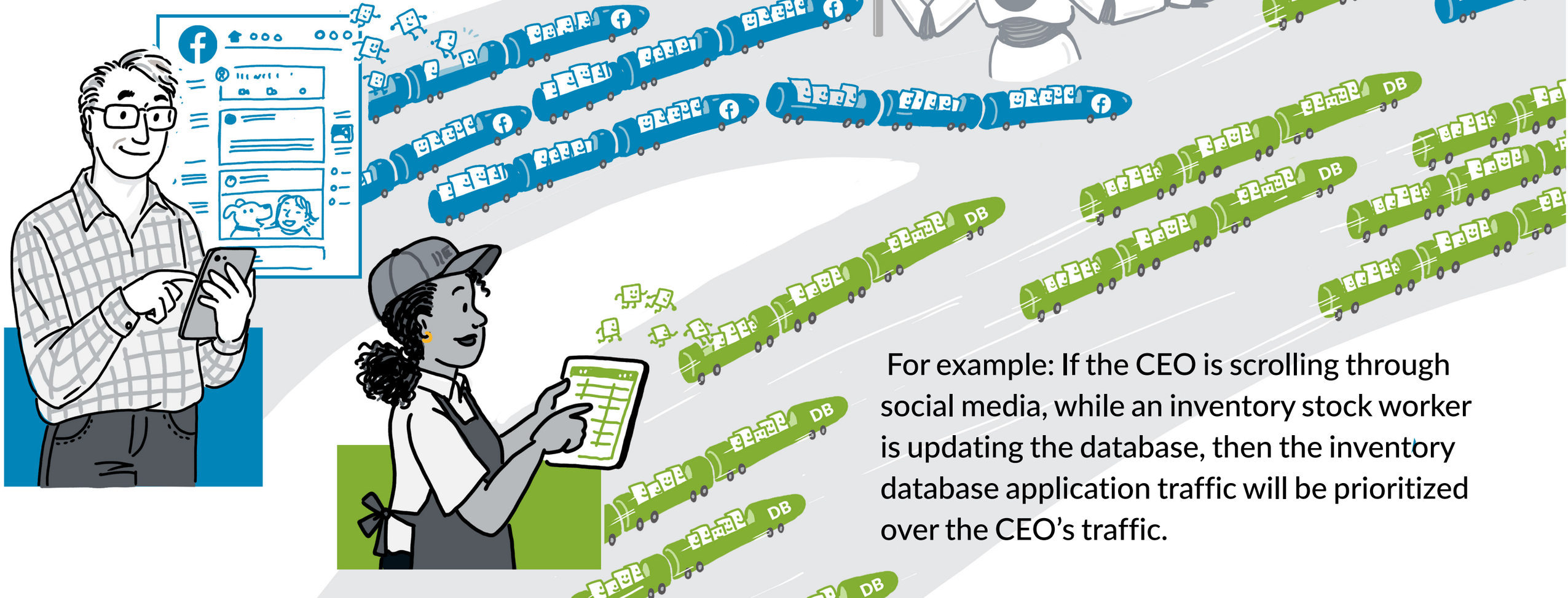
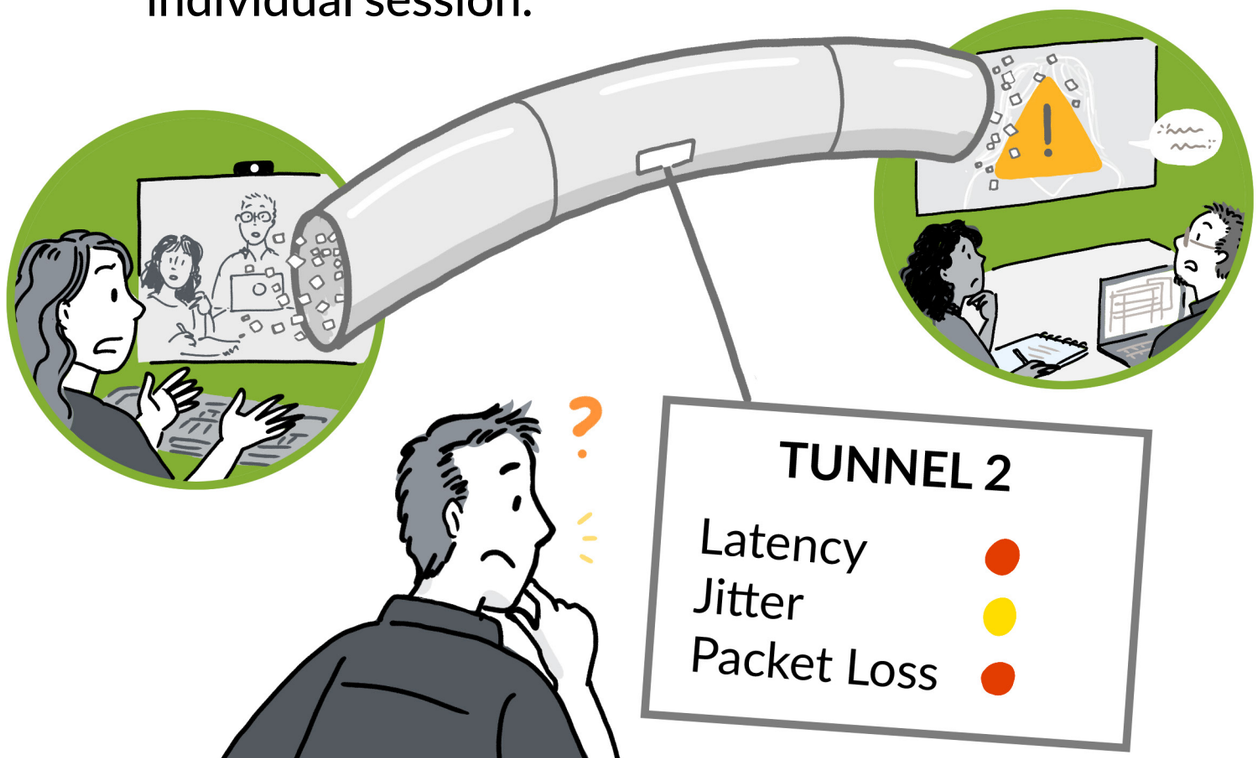
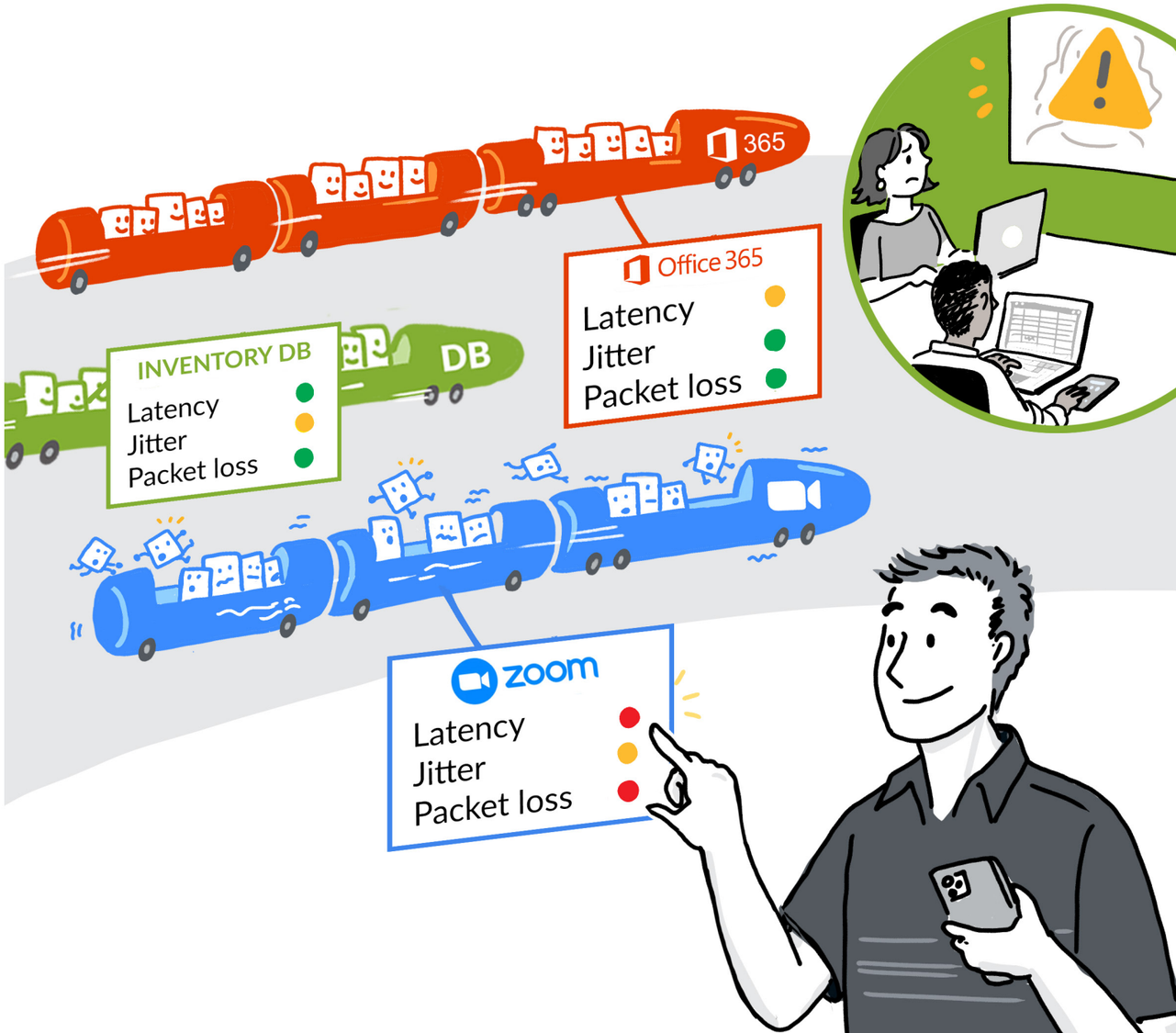
By understanding applications, network admins can also prioritize some applications over others.



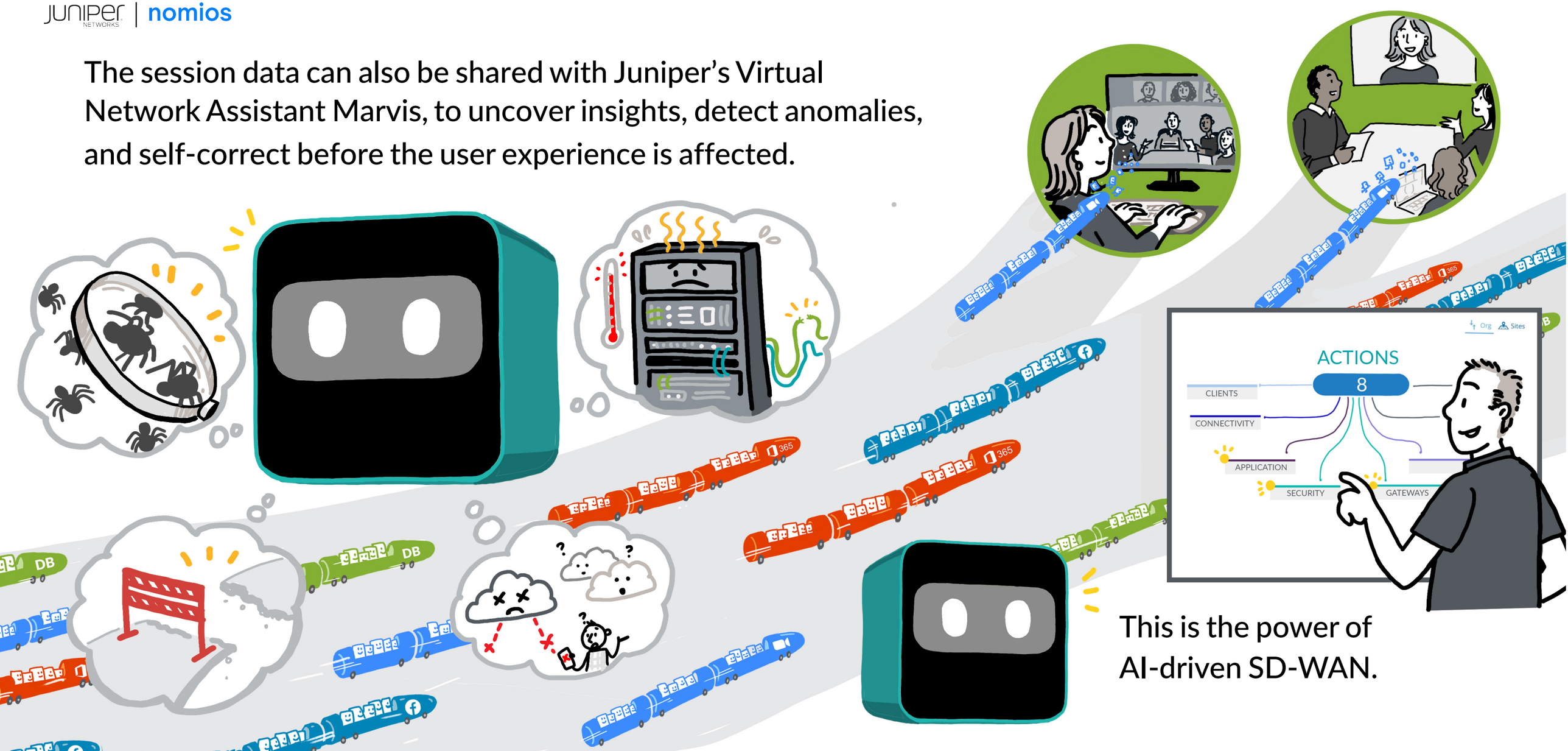
For example: If the CEO is scrolling through social media, while an inventory stock worker is updating the database, then the inventory database application traffic will be prioritized over the CEO's traffic.

Another benefit to tunnel-free Session Smart routing: Operators have greater, more granular visibility into each individual session.





The session data can also be shared with Juniper's Virtual Network Assistant Marvis, to uncover insights, detect anomalies, and self-correct before the user experience is affected.



This is the power of AI-driven SD-WAN.

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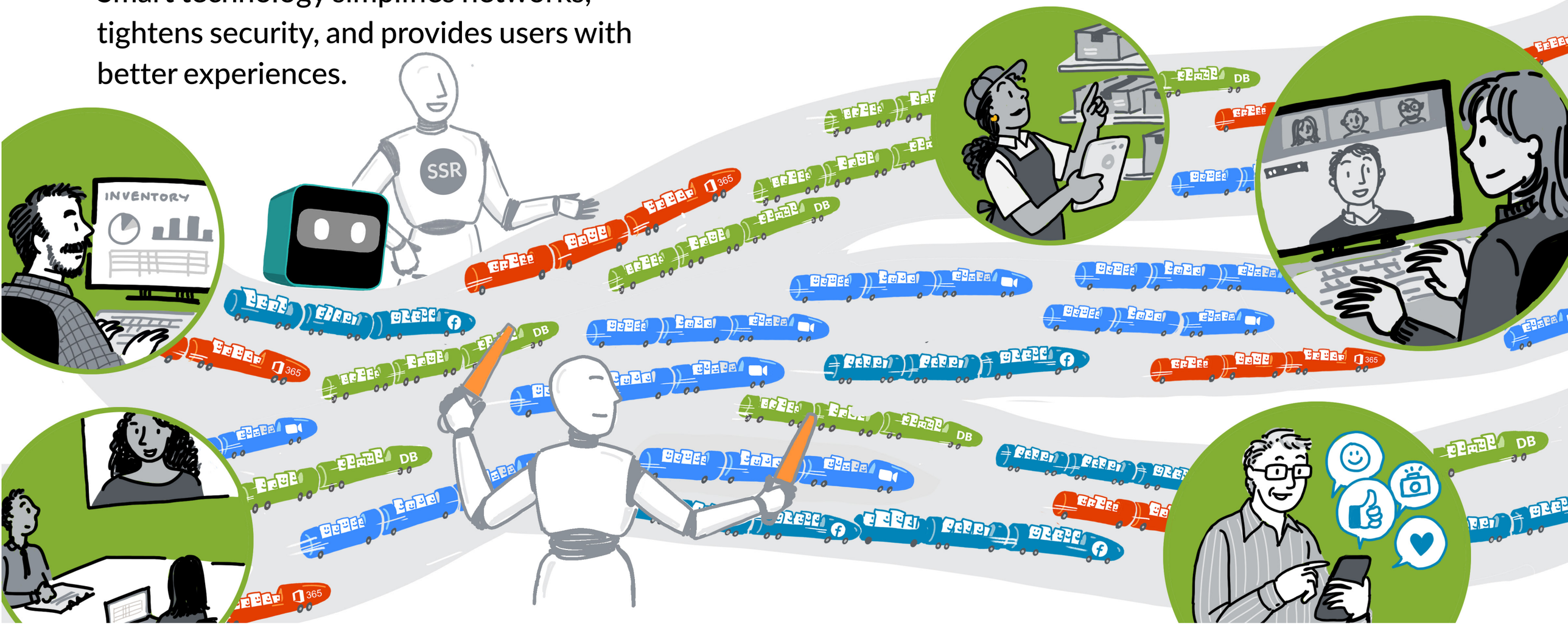
Juniper's AI-driven SD-WAN with Session Smart technology simplifies networks, tightens security, and provides users with better experiences.

All by ensuring you can connect locations, securely, without tunnels.



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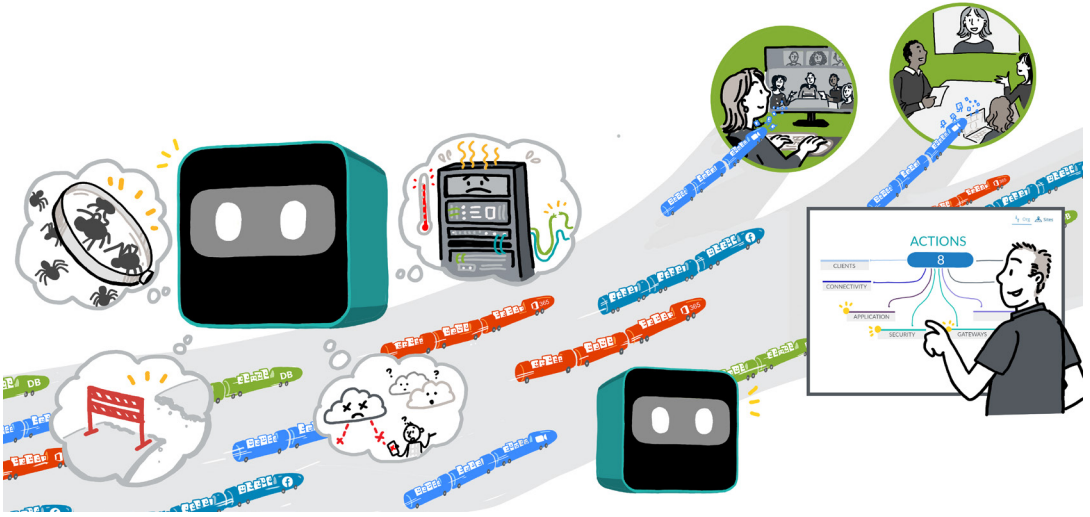

APAC and EMEA Headquarters
Juniper Networks International B.V.
Boeing Avenue 240
1119 PZ Schiphol-Rijk
Amsterdam, The Netherlands
Phone: +31.0.207.125.700
Fax: +31.0.207.125.701

UK Headquarters
Nomios UK&I Ltd
2 Elmwood, Chineham Park
Basingstoke, Hampshire,
RG24 8WG
Phone: +44.0.1372.233.808
Email: tellmemore@nomios.co.uk
Web: nomios.co.uk

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Concept by Tarek Radwan. Text by Hannah Milstein. Illustrated by Debora Aoki.

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