Application Brief

PSTN Replacement – The Easy Way

What to do when your service provider turns off your legacy connections

Many public utilities still employ various types of legacy equipment within their operational technology (OT) network. These devices have been in use for decades and utility networks rely on their proper functioning for mission-critical operations. Remote telemetry units (RTUs), for example, are deployed in thousands along utility lines and in remote sites, and they all need to communicate with the control room with 24x7x365 availability. A sizable portion of them are doing so using good old analog dial-up modems over public switched telephone network (PSTN) services that are leased from a local telco.

PSTNs are another relic. They are very costly to maintain and don't meet today's service requirements and new technologies. Telcos are therefore quickly terminating them, if they haven't done so already, leaving PSTNs' remaining users without a proper solution to ensure immediate service continuity that doesn't involve uprooting their entire network.

SecFlow-1v
Ruggedized Industrial IoT Gateway

Megaplex-4
Next-Generation Multiservice Access Node

RAD

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Seamless PSTN Replacement – Solution Overview

RAD has the ideal solution that allows utilities to keep their current equipment fully operational – both at the end points and network center. They need not be affected by telcos' decision to retire older connection services, and migrate to newer generation RTUs at the pace that is right for them.

This is how RAD's solution works:

1. The RTUs are connected to RAD SecFlow-1v gateways via a serial link.
2. The SecFlow-1v emulates a PSTN connection when sending or receiving RTU data to and from the control center over the new packet-switched network (PSN).
3. At the center, a Megaplex-4 multiservice access gateway replaces the previous stack of dial-up modems to collect and send the data to and from all remote end points and transmits it to the terminal server and SCADA master.
4. The operation of RTUs, terminal server and SCADA master remains unchanged – as far as these devices are concerned, they are still connected using the PSTN.
5. The next migration step would be to embed the terminal server within the Magaplex-4 so that the services continue to run unaffected without relying on discontinued equipment.

Features and Benefits

- Seamless migration by emulating analog dial-up modems and AT commands.
- Preservation of installed RTUs and main terminal server, supporting any type of remote site equipment (serial, embedded PSTN, Ethernet, I/O).
- Secure end-to-end tunneling over public PSN.
- Central management system to manage up to thousands of remote sites, with zero-touch provisioning (ZTP) and remote lifecycle management.
- Cost and footprint savings by replacing multiple small modems and terminal servers with a single aggregation device

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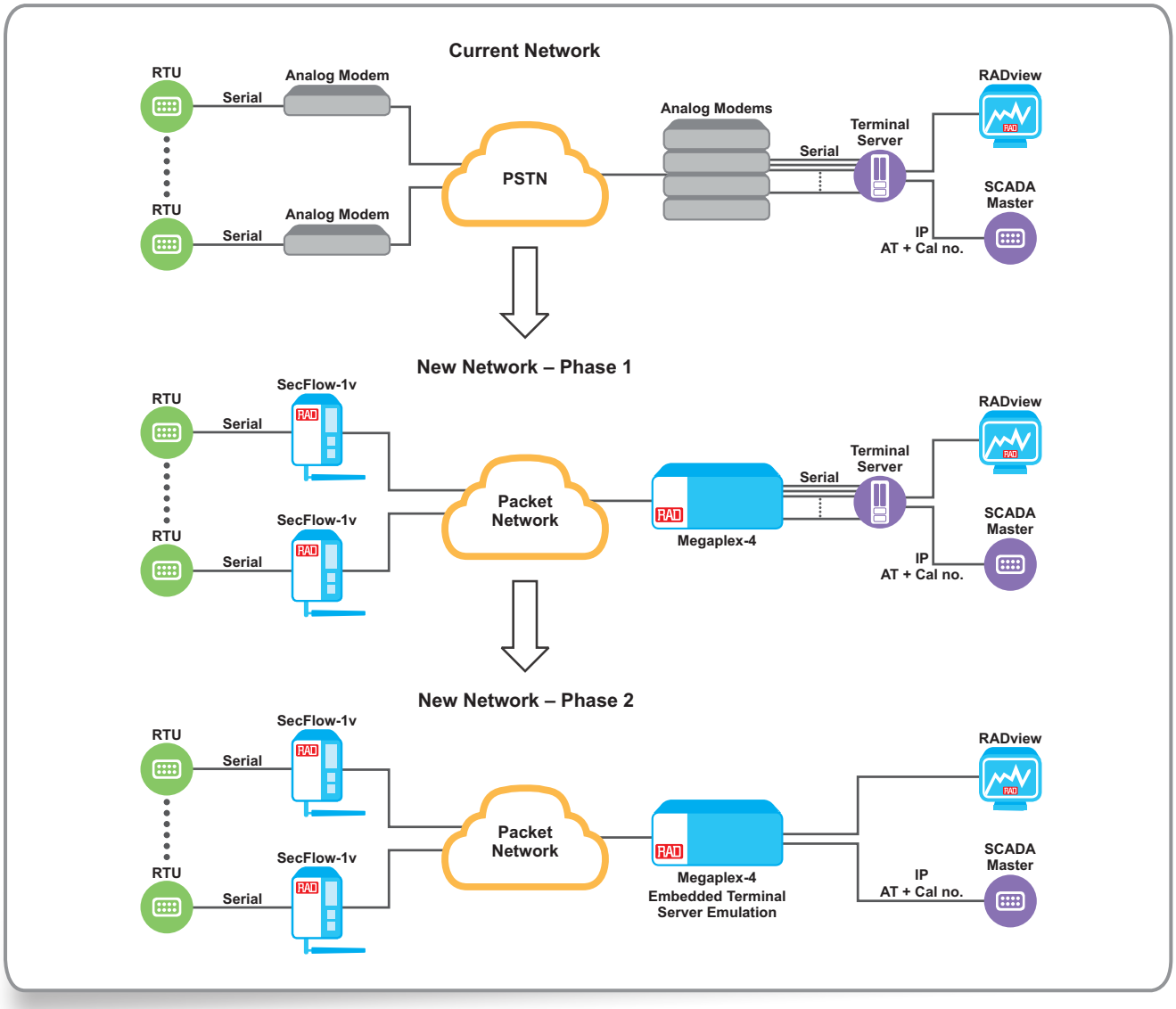
The following diagram illustrates the "before" and "after" of PSTN replacement:



To learn more about seamless PSTN replacement and other RAD solutions, contact us at market@rad.com

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