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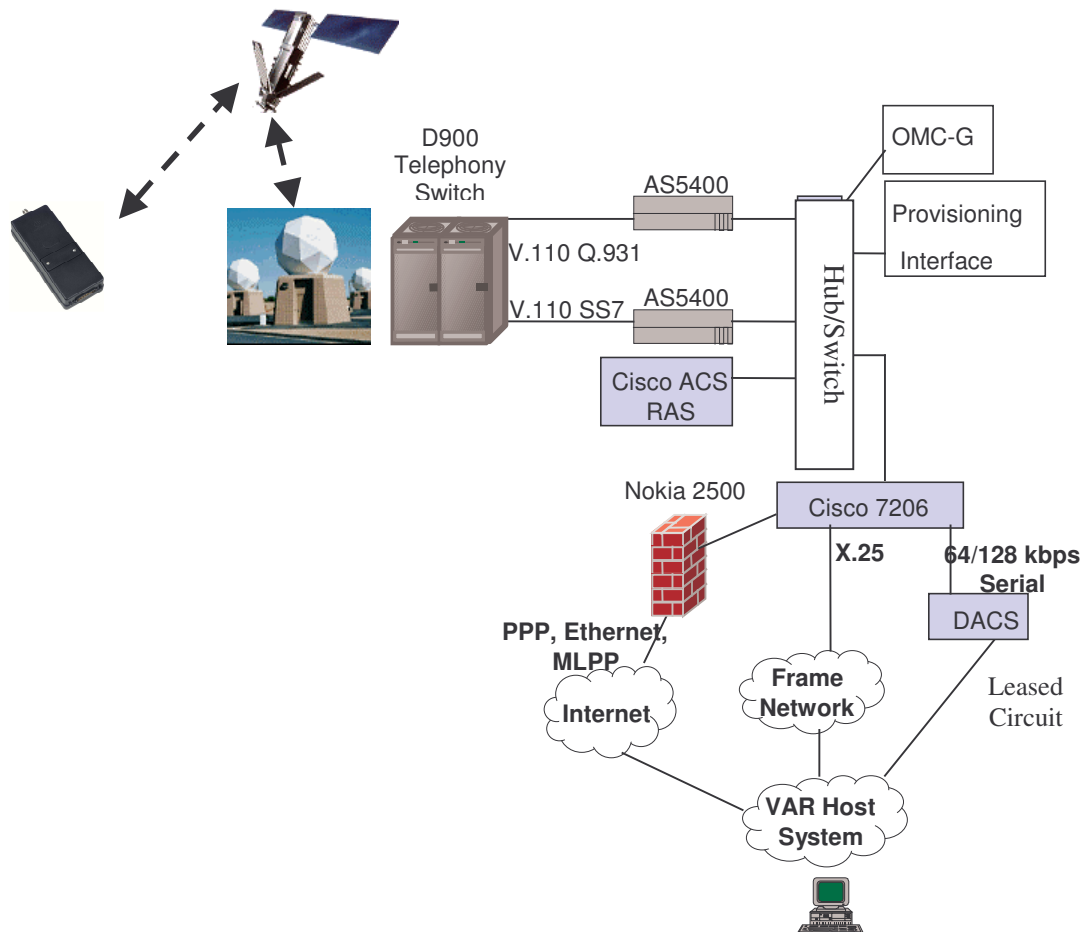
## **ROUTER UNSTRUCTURED DIGITAL INTERWORKING CONNECTIVITY SOLUTION**

### **Description**

RUDICS is an enhanced method of Gateway connectivity for a number of end-user applications that take advantage of Iridium's Circuit Switched Data (CSD) service. RUDICS enables Iridium to provide unique and efficient method of connection in support of Value Added Resellers (VARs) to deploy integrated data applications. Additionally, RUDICS eliminates the need for each customer to develop and deploy a custom server for connecting to the switching infrastructure within the Gateway.

### **Architecture**

The RUDICS architecture leverages reliable Cisco AS5400 equipment in a redundant configuration. Connectivity and protocol options, between the Gateway and the VAR's application, include Internet, Internet w/VPN, frame relay, or lease line. Please refer to the RUDICS architecture graphic below:

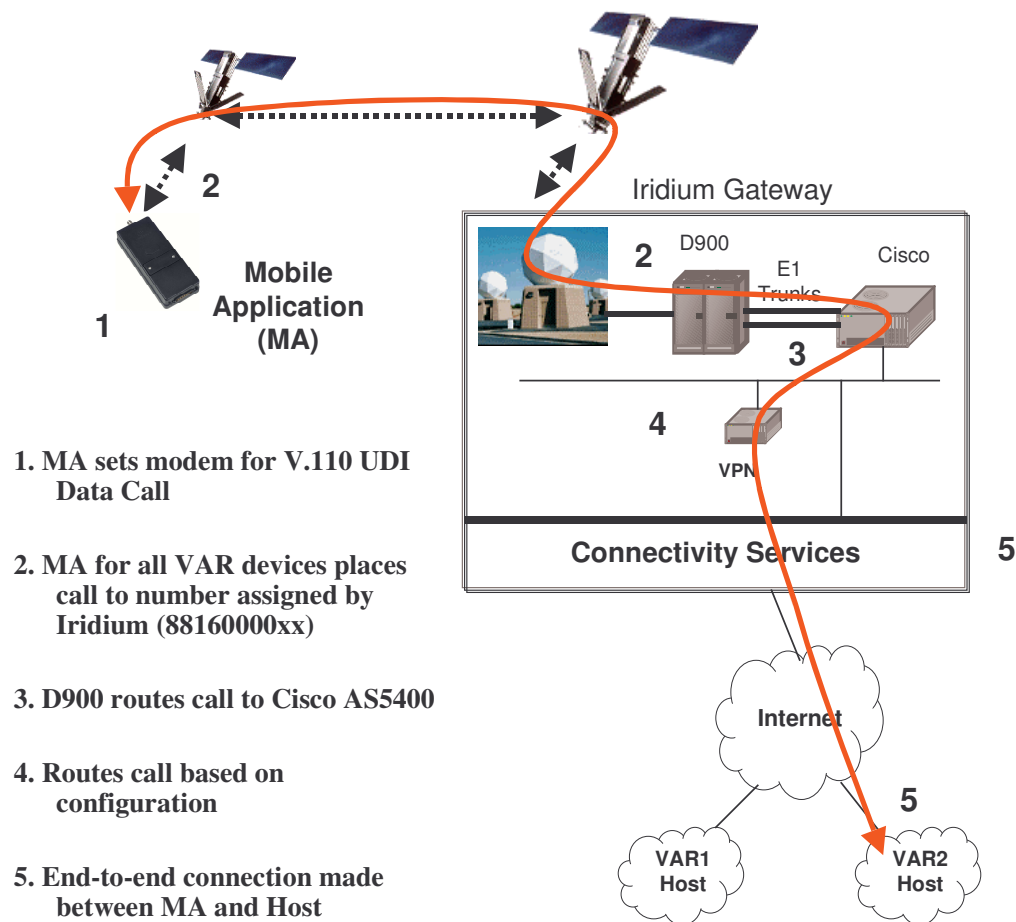


## How it Works

Remote applications use AT Commands to control the established of a circuit switched data call (see At Command Reference Document). The remote application dials a customer specific number assigned by Iridium, which then connects through the Siemens D900, to the Cisco AS5400. The customer specific number is used by all mobile applications and is provisioned and assigned by Iridium. Each mobile unit that places a call to the assigned number is authenticated using Calling Line Identification (CLI). This authentication step ensures that only units provisioned by a VAR can use the VAR's ports and ultimately access the VAR's application server. Once the call has connected and has been authenticated, the data connection is routed to a pre-configured IP address and port number. The IP address and port number is provide by the VAR and represent the VAR's application server.

The VAR's host application can also place a mobile terminated call by establishing a Telnet session to the RUDICS server. Once authenticated, the VAR's application has an effective serial interface to a modem in the gateway. AT commands are then used across this serial interface to place a mobile terminated circuit switched data call.

The sequence of steps in establishing a RUDICS connection is depicted in the graphic below:



### **Key Benefits**

There are several key benefits of using RUDICS as part of a data solution as compared to using Dial-Up over the PSTN, mobile-to-mobile data, or Direct Internet. These benefits are summarized below:

- Elimination of analog modem training time. This time is billable overhead, which results in a higher "effective" cost per kbyte on smaller data transmissions.
- Increased connection quality, reliability, and maximum raw data throughput.
- Protocol independence—No requirement to have a PC operating system and no requirement for TCP/IP.
- Support for both Mobile Originated (MO) and Mobile Terminated (MT) calls.
- MT calls rated the same as MO calls. This is not the case for calls placed via the PSTN.

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## Key Specifications

- Connectivity Options: Internet, VPN, Frame Relay, and Leased Circuit
- Support Protocols: TCP/IP encapsulation, PPP, MLPP
- Authentication of calls based on MSISDN

## Pricing

There are additional one time and recurring costs for integrating to RUDICS. Also airtime usage is billed for circuit switched data.

## Important Considerations

RUDICS also has the capability to support binding of multiple data channels. This channel binding feature provides a customer, requiring higher throughput, to use multiple Iridium subscriber devices to place simultaneous data calls to the number assigned by Iridium. All the data calls are then bound into a single higher bandwidth connection within the gateway—more specifically within the Cisco AS5400. Initial testing using 4 Iridium modems, a commercial PC running MLPP, and 4 port serial device result in effective throughputs (with compression) of 40-50 kbps.

## Related Iridium Accessories

Not applicable.

## Related Documents

Not applicable.