

# Iridium Router based Unrestricted Digital Interworking Connectivity Solution [RUDICS]

## Service Description

RUDICS is a circuit switched data service designed to be incorporated into an integrated data solution. Integrated data solutions are applications such as remote asset monitoring, control, and data file transfer. Often these applications are designed to support hundreds or thousands of remote units. The other circuit switched data services mentioned in this paper are sometimes sub-optimal for such applications. RUDICS is designed to take advantage of the global nature of the Iridium communications system and combine that with a modern digital connection between the Iridium Gateway and the Value Added Resellers centralized application server or Host Application.

RUDICS uses the same circuit switched data service that is described in the sections on “Dial-Up Data” and Direct Internet. The difference and key benefit comes in the equipment used to terminate or originate the call in the Iridium Gateway.

Figure 5 illustrates the call path for a Mobile Originated call.

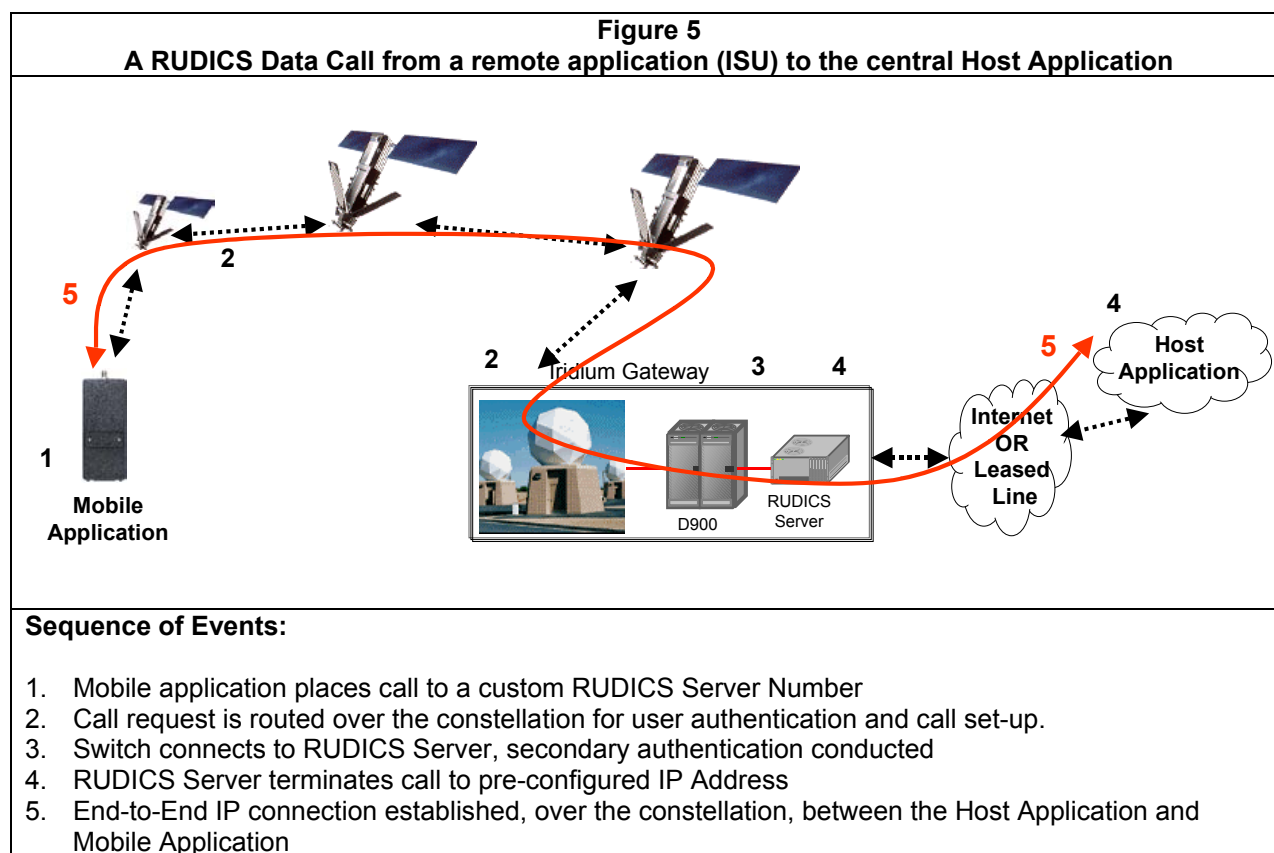
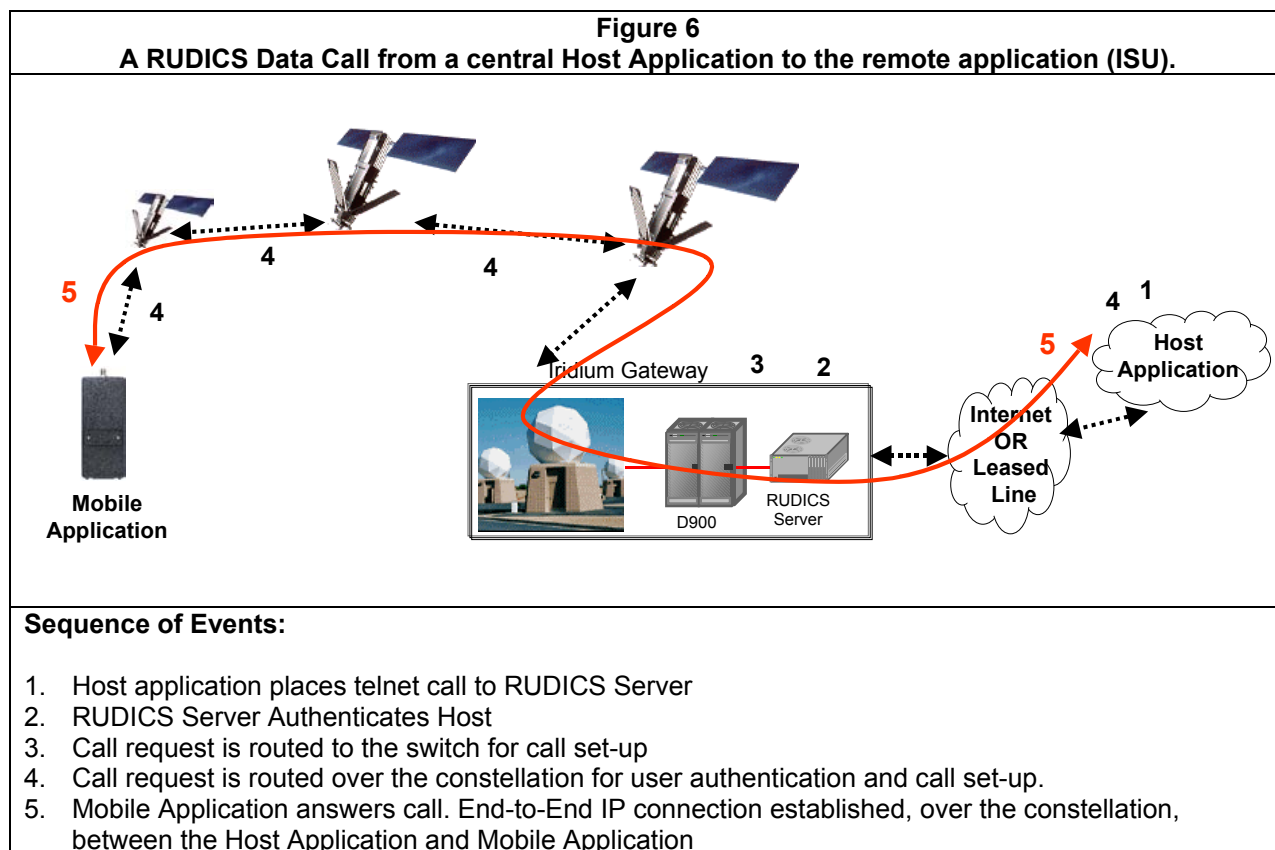


Figure 6 illustrates the call path for a Mobile Terminated call.



RUDICS uses routers to allow termination and origination of circuit switched data calls to and from a specific IP address via a Telnet protocol. The capability is designed to support applications that have many field devices and one central host application. The service allows field devices to directly call the host application and the host application is able to directly call the field devices.

Connectivity between the Iridium Gateway and the Host Application can be by a variety of methods, including Internet, Virtual Private Network and Leased Line

RUDICS has a number of advantages over other methods of originating and terminating Circuit Switched Data calls on Iridium. The following table describes some of these advantages:

Service Type	Limitation	RUDICS Advantage
Dial Up Data	Analog modem training time	No modem training time and therefore lower cost per call
Dial Up Data	PSTN origination fee set by long distance or international carrier	Service rates are identical for Mobile Originated or Mobile Terminated calls
Direct Internet	Remote unit must initiate session. Unit cannot be called directly from an IP Address	Calls can be Mobile Originated and Mobile Terminated
Direct Internet	Requires Windows Operating System	No Operating System requirement
Direct Internet	Remote unit IP address is non-routable	Routable IP addresses.
Direct Internet	TCP/IP Stack negotiation uses billable airtime	Application vendor can select appropriate protocol
PPP Service	Requires TCP/IP Stack	No TCP/IP Stack Required
PPP Service	Remote unit must initiate session. Unit cannot be called directly from an IP Address	Calls can be Mobile Originated and Mobile Terminated
PPP Service	Remote unit IP address is non-routable	Routable IP addresses.
PPP Service	TCP/IP Stack negotiation uses billable airtime	Application vendor can select appropriate protocol

## RUDICS Service Applications

Typical applications include:

- Email – Sending and receiving of email using custom applications software
- FTP (File Transfer Protocol) for transferring data files.
- Periodic data reporting by remote sensors
- Polling of remote units to collect data
- Control of remote equipment

Note that RUDICS is typically best suited for applications that deploy more than 500 units, which report to a central host application.