

New Era Systems, Inc

NEW ERA TELEPORT DESCRIPTION

NEW ERA maintains a world-class teleport located in Miami, FL. The facility is designed to support customer traffic in the Americas and Africa with antenna systems operating on the Satmex V with both C and Ku-band capability, Intelsat 907, IS-1R, I-805 in C band and Telestar 11N Ku band. The teleport is designed to uplink and downlink all types of digital signals, with the following primary capabilities:

- Uplink and Downlink of Digital Signals
- Internet Connectivity
- Terrestrial Data Circuit Connectivity
- IP Voice Termination
- PSTN Voice Termination
- Space Segment Monitoring
- Customer Equipment Co-location

The teleport has been engineered to provide the best possible quality and reliability, with redundant systems operating for all key functions. Highlights of the teleport include the following:

- 7.3 Meter Antenna System for Satmex V C-band (Linear Cross)
- 4.6 Meter Antenna System for Satmex V Ku-band (Linear Cross)
- 4.6 Meter Antenna System for I-907 C-band (Circular)
- 3.8 Meter Antenna System for IS-1R C-band (Linear Cross)
- 3.8 Meter Antenna System for I-805 C-band (Linear Cross)
- Redundant RF Electronics
- 350 KW Backup Generator System with a 800 Gallon tank.
- 450 KVA UPS
- OC-12 Terrestrial Fiber Connectivity
- Redundant Internet Connectivity
- 24 x 7 Bilingual Technical Support

New Era Systems, Inc

DATA CENTER

The heart of the teleport is the NEW ERA Data Center. The VDC is inside a room designed to host 19" racks only. Each rack has its own electrical circuit and the temperature of the room is managed by a redundant set of air conditioners. The VDC houses the following key equipment:

- Satellite Modem Banks
- Router Equipment
- CSU/DSU's
- Servers and Colo Equipment
- Monitoring Equipment
- Security Cameras



New Era Systems, Inc



New Era Systems, Inc

TELEPORT EQUIPMENT

NEW ERA maintains a variety of equipment in the teleport to provide advanced satellite and terrestrial connectivity. Equipment located in the teleport includes the following:

- Satellite Modem Equipment
- CSU/DSU Equipment
- Fiber Connectivity
- Wireless Connectivity

Satellite Modem Equipment

The primary modem used in the NEW ERA Teleport is the NEW ERA M500 modem. The modem operates at BPSK, QPSK, 8PSK, 8QAM and 16QAM supporting R 1/2, 3/4, and 7/8 FEC. Turbo decoding is standard, with optional Reed-Solomon and Viterbi as required by the link budgets.

The modems are monitored both visually and via software to insure that any problems are rapidly detected and resolved.



New Era Systems, Inc

CSU/DSU Equipment

Connection to terrestrial T-1 lines is maintained for customers with terrestrial connectivity to locations within the United States. In a typical application a customer would establish a T-1 connection from their US location to the NEW ERA teleport. From the teleport a point-to-point satellite link would be provided to the customer's remote location, establishing a hybrid private network for the customer.

Terrestrial T-1 connectivity can be established to any of the US carriers, with NEW ERA utilizing Adtran TSU600 channel service units or anything compatible with the standards.

Fiber Connectivity

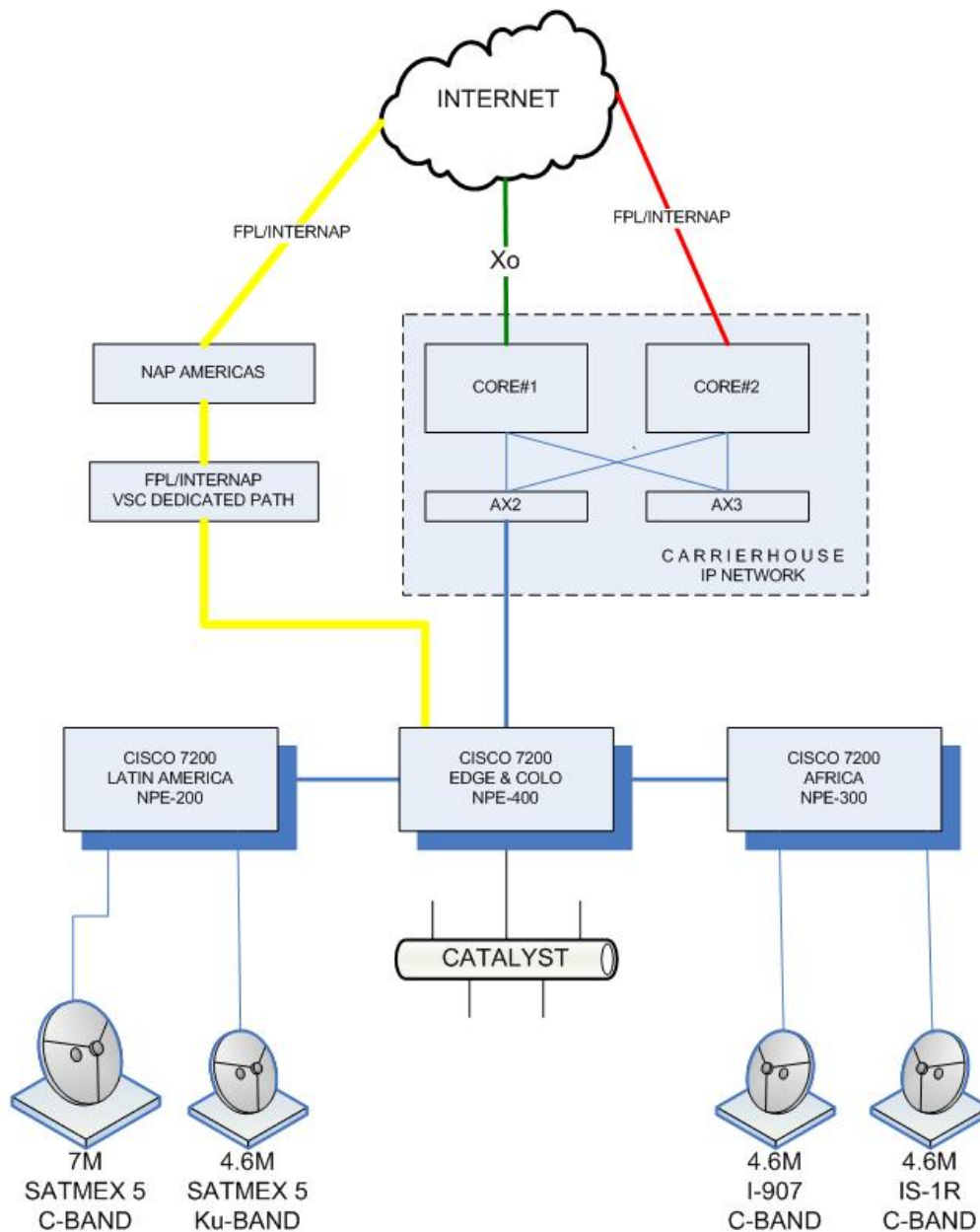
Bellsouth has installed and maintains an OC-12 fiber connection from the NEW ERA teleport facility to the nearby Central Office. The fiber connection is available for use by NEW ERA customers for private connections, Internet connectivity, and minutes termination. The equipment used for the fiber connectivity is the Northern Telecom S/DMS Transport Node.



New Era Systems, Inc

IP CONNECTIVITY

NEW ERA contracts for multiple connections to the Internet to provide both diversity and redundancy, insuring extremely high availability for the customer's IP connectivity. Connections to the Internet are provided by FPL/Internap, CarrierHouse/Xo.



New Era Systems, Inc

IP Addresses

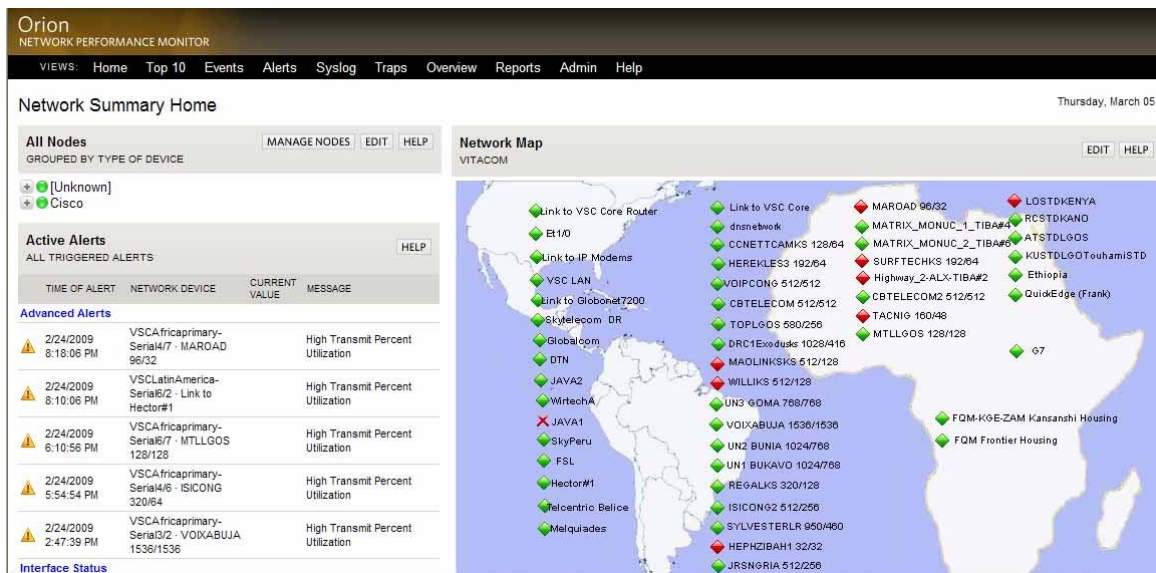
NEW ERA maintains its own set of IP addresses, which can be assigned to the customer on an as-needed basis. The advantage of using IP addresses not associated with a given IP provider is that this allows providers to be changed or backed-up without any effect on the end customer.

Alternately, NEW ERA can operate with IP addresses provided by the end customer.

IP Monitoring

NEW ERA utilizes the SolarWinds software suite to provide enhanced monitoring of the IP network status. The monitoring system has two primary capabilities. First, it runs pings to each router in the system to verify the basic link connectivity. In the case that a router in the network fails to respond then an alarm is generated to notify the operator.

The monitoring system also measures the utilization of each IP link, including the links to FPL and CarrierHouse, as well as the customer links. The utilization is continuously displayed, and in the event that the utilization exceeds preset limits, an alarm is generated and the operator is notified. Customers can also receive email alerts when one particular condition happens on the Network, like an interface down, saturation, etc.



New Era Systems, Inc

Antenna Systems

The teleport includes both C and Ku-band antenna systems with redundant electronics for operation on multiple satellites. This allows NEW ERA to offer a wide range of services covering all of North, Central, South America, Caribbean and Africa.

Satmex V C-band

Teleport links on Satmex V C-band are transmitted and received via a large aperture Andrew 7.3 Meter Antenna. The antenna is equipped with a four-port feed to allow simultaneous operation on both horizontal and vertical polarizations. The antenna system is driven by fully-redundant RF electronics. The antenna system is currently operating on even transponders with the option to expand to even/odd as required.

Satmex V Ku-Band

Satellite links operated on the Satmex V Ku-Band satellite are transmitted and received via a medium aperture Andrew 4.5 Meter antenna. The antenna system is currently operating on even transponders with the ability to expand to even/odd as required.

Intelsat 907 C-band

Teleport links on I-907 C-band are transmitted and received via a medium aperture Andrew 4.5 Meter Antenna. The antenna system is driven by fully-redundant RF electronics. This antenna operates with Circular Pol.



New Era Systems, Inc



AC POWER BACK-UP SYSTEM

The availability of back-up power is essential to the reliable operation of the NEW ERA teleports, as a guaranteed source of AC power is essential to meeting the availability requirements of our customers. NEW ERA has engineered a power back-up system that will insure that AC power is always available.

Generator

The power grid/utility power is backed up by a 350 kW diesel generator designed to provide reliable backup power in the case of short-term and extended outages. The generator starts automatically when a power outage is detected, and continues operating until the utility power is restored.

The generator is equipped with a 800 gallon fuel tank. With a typical consumption rate of 3 gallons/hour, the generator can operate under load for many days before needing refueling. Refueling contracts are maintained with two local supplies to insure the availability of fuel in the event of an extended outage.

New Era Systems, Inc

The generator is tested on a monthly basis to insure proper operation. The generator is maintained by Electro-Motion Corporation of Redwood City, Ca, with 24x7 support from Electro-Motion as required.



Automatic Transfer Switch

The generator is switched online automatically via the ATS, or Automatic Transfer Switch. The switch is located adjacent to the generator and detects the power outage. When the generator is started and operating normally, then the ATS switches the input to the facility to the generator power.

UPS

The facility power is fed through the UPS, or Uninterruptible Power Supply. The UPS is designed to provide AC power to the teleport through its battery system in the event of an AC power failure. Note that the UPS is designed to provide power only on a short-term basis until the generator and ATS can be started and switched on-line.

New Era Systems, Inc

