

Distance Learning Solutions



Advantech
Wireless

**“Information technology
is a powerful tool that
can help liberate the poor
and empower them.”**

U.N. Secretary General
Kofi Annan

**“The internet gives students
a chance, not only to see
the world, but to *be seen*
by the world.”**

Eliada Gudza,
Zimbabwe

Ask us how we can help
connect your schools



Connecting schools is not about “*delivering*”
information.....it’s about “*sharing*”
information

Connecting schools is as much about
transmitting as it is about receiving

Only a *two-way* link will do

Establishing a high-speed, two-way link in an urban environment is usually straightforward

Establishing such a link in a sub-urban, rural or remote area is much more challenging

Only a satellite will allow a two-way link,
..... *anywhere!*

If your mission is to provide two-way, high-speed broadband connectivity to your schools, thereby enabling the very latest advances in education, then you must consider the industry leader.....



- the industry leader in open standard two-way satellite communications (DVB-RCS)
- has deployed more DVB-RCS systems, to more customers
- has more experience solving problems specific to education

We can help connect your schools!

» **Distance Education:**
Satellite Delivers
A+ Service

sites in Mexico and Latin America.”

DISTANCE LEARNING VIA SATELLITE MAKES THE GRADE

Whether in Africa, the United States or Latin America, the conclusion remains the same. Delivering distance learning by satellite works. In fact, virtually no other technology can provide more students with better educational opportunities at a more reasonable

cost, either for infrastructure or ongoing operation. Clearly, this is a lesson worth heeding, and one that educators in Africa, the United States and Mexico must put in their lesson plan. ♦



JAMES CARELESS IS SENIOR CONTRIBUTING EDITOR TO VIA SATELLITE.

Military Satellite Supplement Inside!

Via Satellite

November 2003



Satellite Manufacturing:

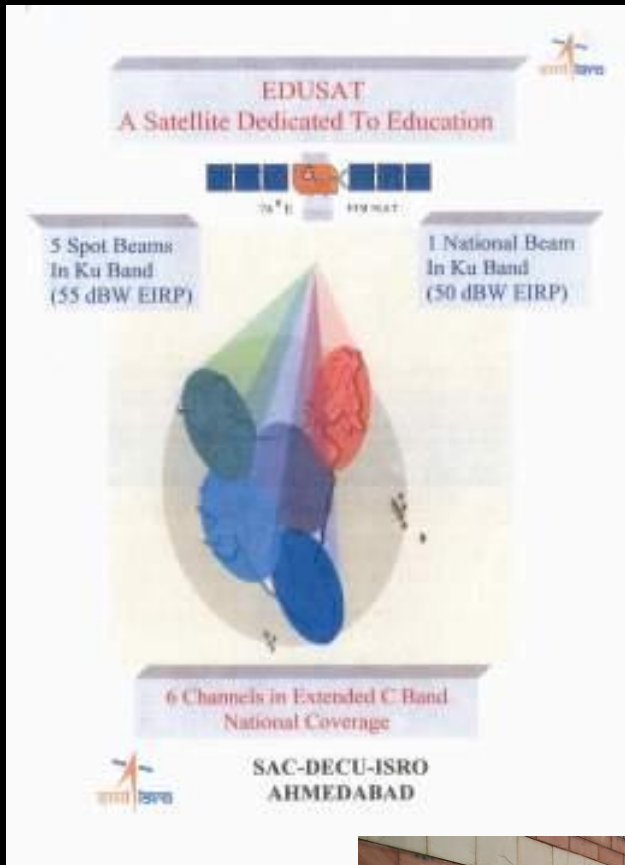
Weathering the Economic Storm

» **Distance Education:**
Satellite Delivers
A+ Service

» **North America:**
What Lies Ahead

www.viasatellite.com

Via Satellite – November 2003



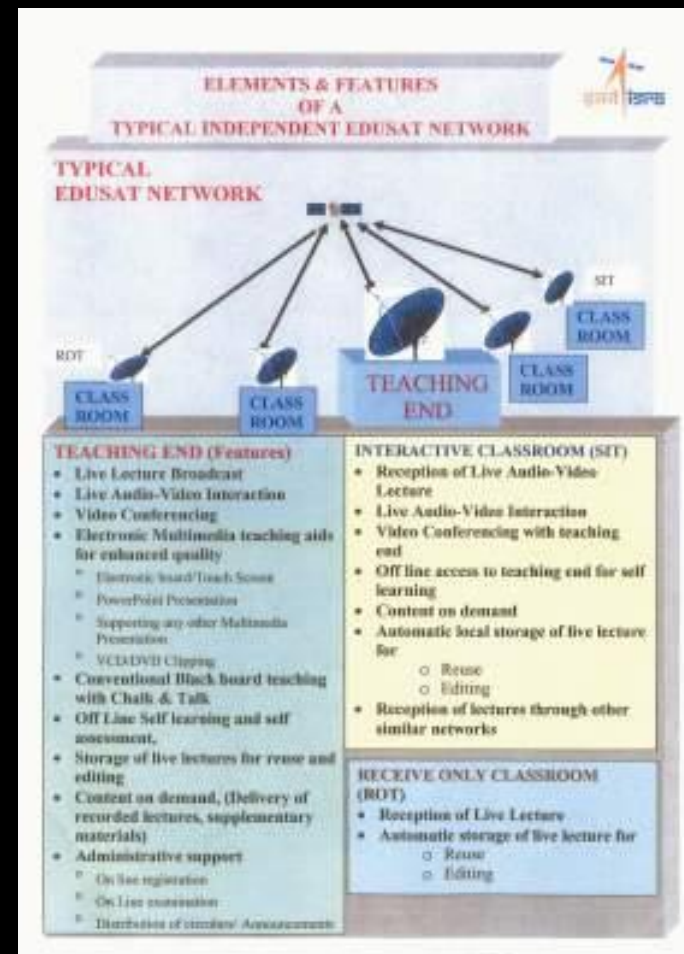
Case Study - India

- India has launched a dedicated satellite to support a National Distance Learning Program within their system of public education.
- Advantech Satellite Networks supplied the DVB-RCS hubs and terminals for this country-wide implementation



Case Study - India

- Over 500 sites are connected via satellite
 - Independent & Simultaneous Networks for Education
 - Distributed Teaching Centers
 - Interactive Remote Classrooms with Video-Conferencing Capabilities
 - Education Material on demand
 - Web based self learning support
 - Ku & Extended C-Band Operations



Case Study - India

**TEACHING-END
FUNCTIONS & INFRASTRUCTURE**





Teacher with Chalk & Talk



Operator with Hardware

FUNCTIONS

- Broadcasting conventional teaching session (384 KBPS Video and 64KBPS Audio)
 - Using Blackboard & Chalk
- Cameras for appropriate coverage
 - Teacher
 - Black board
 - Experiment/Demonstrations
- Providing Technical Aids to the teacher
 - PowerPoint Presentation
 - Video Clippings
 - Electronic Board/ Touch Screen
 - Any other Multimedia Presentation
- Interaction with selected classroom
 - 64 KBPS Only Audio
 - 384 KBPS Audio & Video
- Video Conferencing with Classroom
- Providing access to Data Bank for Content on demand by classrooms

INFRASTRUCTURE

Essential

- AC Room (7 x 7 x 4 M)
(South sky view should be unobstructed from roof of building)
- 230 V, 50 Hz, 5 A Power
- Two Tables (6 x 3 x 3 Ft.)
- PCs (2 Numbers)
- VLC Software & Osprey Card
- UPS (3 KVA)
- Black board (5 x 3 Ft.)
- Two cameras (remote switching)
- Electronic Board (Touch screen)
- DVD Player
- Two microphones (Lapel & Normal)
- Head Phone and a 20 W multimedia Speaker
- SVGA to Pal Converter
- Video conferencing Equipment

Desirable (User to decide)

- Web server (LMS)
- Data Bank
- Studio feed
- Video Mixer (Picture in Picture)
- Audio Mixer

- Live Lecture Broadcast
- Live Audio-Video Interaction
- Video-conferencing
- Electronic Multimedia Teaching Aids for enhanced quality
- Chalk & Talk
- Off-line Self Learning & Self-assessment
- Storage of live lectures for re-use and editing
- Content-on-demand
- Administrative support

Case Study - SchoolNet

- Canada's SchoolNet delivers two-way distance learning to far north communities using DVB-RCS
- This video capture illustrates several Inuit children learning to play the violin.
- The teacher, in the picture-in-picture, is several thousand kilometers away in Ottawa, Canada.



(2 Minutes)

“If you can teach a child to play the violin.....
...you can teach him *anything!*”



Case Study - SCN

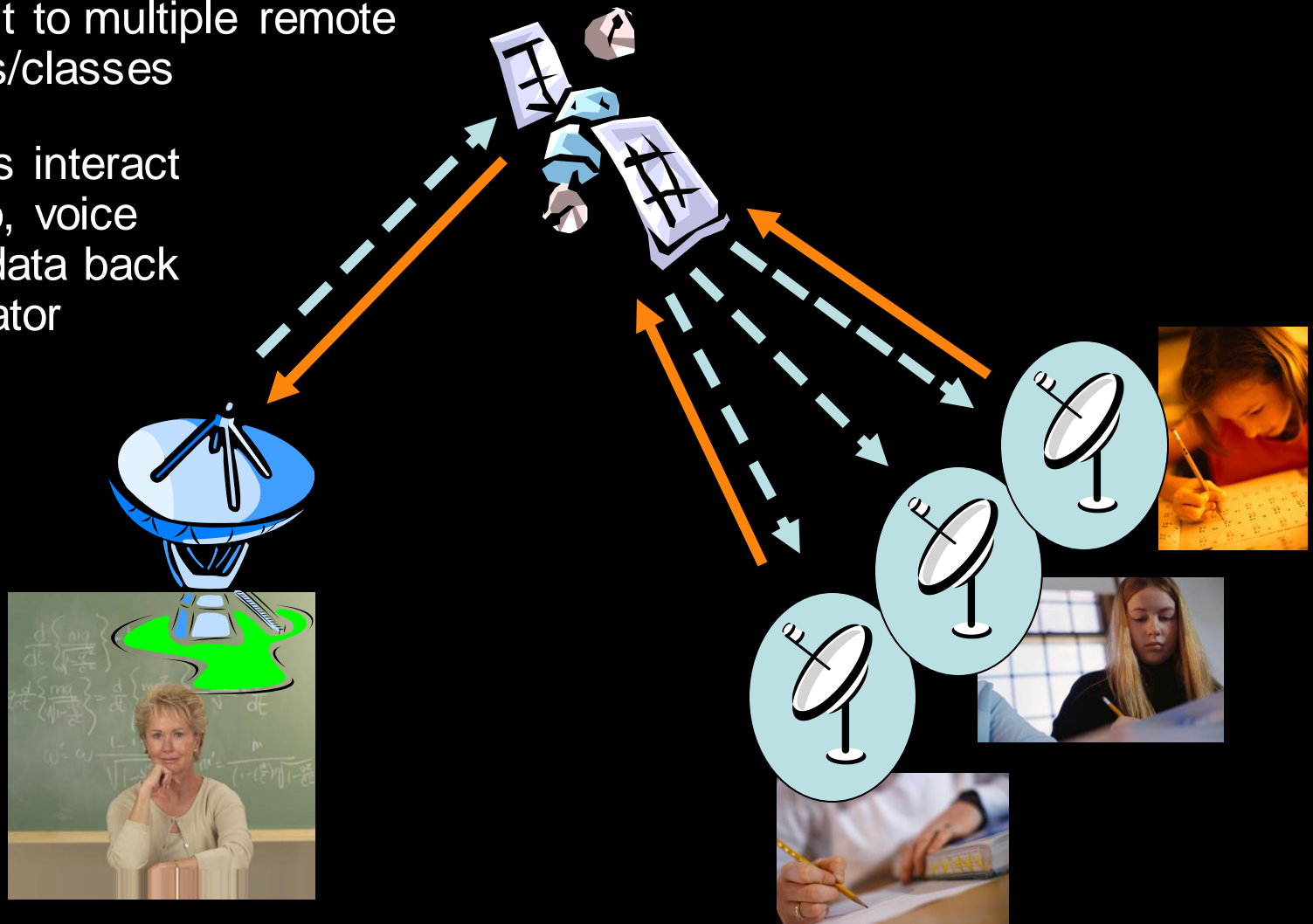
- Distance Education Leader
- Early adopter of DVB-RCS
- 3,000 Learners
- 200 Communities
 - 920 Educational facilities
 - 310 Health Facilities
 - 256 Government offices
 - 162 Public Libraries
- Learning-on-demand
- Across North America

(6 Minutes)

"SCN selected Advantech Satellite Networks to supply its world-class distance learning network technology after a thorough competitive evaluation. We have been able to deliver all the services we intended, and are now looking to expand into new services for other community needs, such as telemedicine and public safety."

How Does it Work?

- Courses can be broadcast / multicast to multiple remote students/classes
- Students interact by video, voice and/or data back to educator



How can distance learning via satellite be used?

- Broadcast/Multicast to remote students/classrooms
 - Interactive group participation
 - Large or small groups sizes for classes, tutorials, or even one-on-one
 - Multimedia exchange of presentations, documents, audio/video clips
- Student access to central databases for course materials & tutorials
- Student access to the Internet for research, collaboration, exploration
- And much more...



POST SECONDARY

Saskatchewan's post secondary institutions including the First Nations University of Canada, the Saskatchewan Institute of Applied Science and Technology (SIASST), the University of Regina and the University of Saskatchewan offer a range of televised and multi-mode courses via the satellite network provided by SCN. These courses provide accessible, interactive and cost-effective education and training opportunities to Saskatchewan residents in or near their home communities.

Post-Secondary Class List

Semester I, September - December 2004

Day	Program	Time	Broadcast School	Channel
Mondays	Religious Studies 100	16:00 - 18:45	U of R	2
	Administration 126	16:00 - 18:50	SIASST - Palliser	1
	Women's Studies 100	19:00 - 21:45	U of R	2
	Native Studies 105.3	19:00 - 22:00	U of S	1
Tuesdays	History 151.3	16:00 - 18:30	U of S	1
	Kinesiology & Health Studies 139	16:00 - 18:45	U of R	2
	Sociology 110.6	19:00 - 22:00	U of S	1
	History 207	19:00 - 21:00	U of R	2
Wednesdays	English 100	13:00 - 15:50	U of R - FNUJ	2
	Cree 100	16:00 - 18:45	U of R - FNUJ	2
Shared Time	Economics 120	16:00 - 18:50	SIASST - Palliser	1
Shared Time	Accounting 122	16:00 - 18:50	SIASST - Palliser	1

Advantech Satellite Networks

- Advantech Satellite Networks is a division of Advantech AMT
 - Acquired by Advantech AMT in March 2006
 - Originally formed in 2002 as a spin-off of EMS's Montreal Space & Technology Group (formerly Spar Space Systems)
 - Based in Canada, and offering distance learning solutions worldwide
- We have >30 years heritage in satellite ground communications
- We are now the world leader in open standard , two-way satellite communications
 - Pioneered the DVB-RCS open standard 10 years ago
 - Building on DVB technology used by almost all direct-to-home satellite service providers worldwide (eg. Echostar, B-Sky-B)

DVB-RCS Satellite Equipment

- State-of-the-art performance
- Lowest capital costs per user
- Lowest operational costs



Hubs/Gateways



SOHO/Enterprise Modems

DVB-RCS Transportable Solutions



- Ideal for mobile classrooms
- Deployable & ready for service in <5 minutes
- No technical intervention required – can be pre-programmed
- Available in 76cm or 96cm with 1W or 2W KU BUC



Applications

- All internet-enabled applications such as:
 - Video-conferencing
 - VoIP
 - Data (High speed, bi-directional)
 - VPNs
- Education specific applications:
 - Distance Learning
 - Tele-presence of professors
 - Access to experts (science / math / music / other)
 - Content distribution
 - Mobile classrooms
 - Access previously recorded lessons
 - Access Libraries
 - Administration
 - Private network or VPN
 - Exam distribution
 - Document distribution



Sample Customers



Compelling reasons to adopt DVB-RCS

- Education is a competitive marketplace
- Connectivity greatly enhances learning
- Optimization of resources
- Faster learning
- Focus on best practices in education
- ALL schools have access regardless of location
- Open standard technology
- World leading supplier
- Cost effective solutions
- Infrastructure supports public and private training



“The knowledge of the world is only to be acquired in the world, and not in a closet.”

Lord Chesterfield

www.AdvantechWireless.com