Hawaiian Telcom

Legal Department
P.O. Box 2200
Honolulu, Hawaii 96841
Phone: 808-546-3606
Fax: 808-546-7621

May 5, 2006

VIA HAND DELIVERY (ORIGINAL + 6 COPIES)

Mr. Clyde Sonobe, Administrator
Cable Television Division
Department of Commerce & Consumer Affairs
335 Merchant Street, 1st Floor
Honolulu, Hawaii 96813

Re: In re Application of Hawaiian Telcom Services Company, Inc. for a Cable Franchise

Dear Mr. Sonobe:

We are enclosing an original and six (6) copies of the application of Hawaiian Telcom Services Company, Inc. ("Applicant") for a cable franchise for the island of Oahu. Also enclosed, in a sealed envelope, are an original and six (6) copies of binders labeled "Confidential" that contain information Applicant considers to be confidential, proprietary, and/or highly competitive. Applicant respectfully requests that the contents of the "Confidential" binders not be disclosed to third parties without Applicant's prior written consent. Please also find a check in the amount of $1,000.00 for the necessary filing fee.

Thank you for your consideration of this application.

Very truly yours,

Hawaiian Telcom Services Company, Inc.

Alan M. Oshima
Senior Vice President, General Counsel
and Secretary

Hawaiian Telcom

Legal Department
P.O. Box 2200
Honolulu, Hawaii 96841
Phone: 808-546-3606
Fax: 808-546-7621

May 8, 2006

VIA HAND DELIVERY (ORIGINAL + 6 COPIES)

Mr. Clyde Sonobe, Administrator
Cable Television Division
Department of Commerce & Consumer Affairs
335 Merchant Street, 1st Floor
Honolulu, Hawaii 96813

Re: In re Application of Hawaiian Telcom Services Company, Inc. for a Cable Franchise

Dear Mr. Sonobe:

As discussed today with Laureen Wong, Esq., Staff Attorney, we are hereby providing copies of Exhibits E.8 and G.22 that were omitted from the above-referenced application submitted last Friday. Please let me know if you have any questions.

Very truly yours,

Francis K. Mukai
Vice President and
Associate General Counsel

Enclosure

STATE OF HAWAII)
) ss.
CITY AND COUNTY OF HONOLULU)

Applicant's Affidavit

This application is submitted by the undersigned who has been duly authorized to make the representations herein on behalf of the Applicant.

Applicant understands that this application will be part of the Franchise Documents, enforceable against Applicant, in the event a franchise is granted as a consequence of this application.

Applicant recognizes that wilful representations made in this application are binding upon it and that wilful inaccuracy of or knowing failure to adhere to any such representations my result in revocation of any franchise that may be granted as a consequence of this application.

Consent is hereby given to the State to make inquiry into the legal, character, technical, financial and other qualifications of Applicant and any controlling entities by contacting any persons or organizations named herein as references, or by any other appropriate means.

The Applicant certifies that the responses are within the financial capability of the proposed system as demonstrated on the pro forma statement of Form F and to deliver a cable communications system which is consistent with the responses contained within this application.

The signator hereto declares that the entire contents of this application are true and correct to the best of his knowledge, information and belief.

Firm name Hawaiian Telcom Services Company, Inc.

Affiant's Signature _____

Official Position VP- Strategy + Business Development

Subscribed and sworn to before me
this 5th day of May, 2006

_____
Notary Public, State of Hawaii

Type/Print Name: ELAINE R. PERRY

My commission expires: Sept. 5, 2007

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INFORMATION REQUIREMENTS

A. Financial Statements and Responsibility

The application proposal must include a statement of Applicant's financial condition, financial responsibility and resources, including a financial statement reviewed or audited by an independent CPA for the most recent fiscal year, and for the last quarter an unaudited statement, and a financial statement for parent organization. The rendering of the financial statements should be in such form as will clearly reveal the extent of the Applicant's cable operations, including investment in cable facilities, revenues from all sources, including military bases and planned communities, expenses of operations, and the accounting policies used in the preparation of the statements including those related to income taxes, parent advances, charge-backs, and allocations.

A: See Exhibit 1 attached hereto.

B. History and Experience

The application must include a narrative account of Applicant's history and experience to demonstrate its ability to furnish efficient and dependable service to the public.

The narrative account should include a description of the background and experience of the senior personnel who will manage the operation of the cable system.

A: History:

1883: King David Kalakaua grants Mutual Telephone Company a charter to provides service in the Islands

1954: Mutual changes its name to Hawaiian Telephone Company

1967: GTE Corporation acquires the company, which becomes known as GTE Hawaiian Telephone Company Incorporated.

2000: GTE merges with Bell Atlantic to form Verizon

2005: Verizon Hawaii Inc. is sold to The Carlyle Group for $1.6 billion; company's name changes to Hawaiian Telcom, Inc. Applicant, which was formed in 2004, receives Verizon's Hawaii DSL and directories businesses.

Hawaiian Telcom Companies, Multiple Services
Applicant and its ILEC sister company, Hawaiian Telcom, Inc. (together,

"Hawaiian Telcom"), offer a range of telecommunications services and products, including high-quality voice and data transmission that includes local and long-distance calling, digital subscriber line (DSL), wireless service, directories and internet yellow pages.

Competitive and Responsive

By being locally managed, Applicant will be able to be more competitive and responsive to Hawaii's businesses and residents. Applicant's mission is to incorporate Island values, take the time to understand the needs of its customers, and be more nimble and flexible in responding to them.

Some examples of recent customer-impacting improvements by Hawaiian Telcom since the sale by Verizon:

- Created a brand new wireless company, including a new prepaid offering and a first-of-its-kind seamless wireless to wireline transfer service – CallChoice℠.
- Launched a new long distance business and a new unlimited long distance feature, Call More℠.
- Migrating high-speed Internet customers off the congested network inherited from Verizon, and put these customers on a beefy Internet backbone that is locally managed by Hawaiian Telcom's network engineers.
- Entered the webstreaming business, partnering with K5 to bring UH sports to the world over the Internet.
- Set up our own locally-based Hawaiian Telcom Help Desk to address computer and other IT problems.
- Created over 200 Hawaii-based jobs, hiring for many brand new, full-service departments – IT, Sales, Marketing, HR and others -- bringing work home to Hawaii that had been off-shored to the Mainland in previous years.
- Installed more than $100 million of new IT equipment to create a new integrated communications service platform for Hawaii consumers.
- Built a state-of-the-art 24x7 Network Operations Center (NOC), establishing a new nerve center for networking in Hawaii.

The Hawaiian Telcom Executive Team

Michael Ruley, Chief Executive Officer and President

Michael Ruley is Chief Executive Officer and President of Hawaiian Telcom, an independent telecommunications company based in Honolulu, Hawaii, providing wireline, wireless, long distance, yellow pages. Hawaiian Telcom has nearly 1,700 employees, with operations that serve all of the major Hawaiian Islands. Mr. Ruley, who was appointed to his position in October 2004, is a proven leader with a solid track record in the telecommunications industry.

David Torline, Senior VP and Chief Information Officer

David Torline is responsible for Hawaiian Telcom's overall information technology strategy and direction, which includes selecting, engineering and

implementing new, key technologies and systems that support and drive the business. He is also responsible for developing and managing the strategic supplier relationships in the IT area.

Daniel O'Brien, Senior VP, Chief Financial Officer and Treasurer
Daniel O'Brien, who has 25 years of financial management and reporting experience, oversees all of Hawaiian Telcom's financial operations, including treasury, financial analysis and reporting, corporate and regulatory accounting, tax and investor relations. He is responsible for developing and implementing financial systems and reporting structures to ensure Hawaiian Telcom is a highly efficient provider of services and model of financial integrity. As a member of the senior management team, he plays an instrumental role in developing and executing Hawaiian Telcom's strategic plan.

Harvey Plummer, Senior VP - Engineering and Operations
Harvey Plummer is responsible for the backbone of Hawaiian Telcom's businesses, including in-field technical services. He has more than 35 years of planning, operations, public policy and strategy development experience in the domestic and international telecommunications and consulting industries. Most recently, he was senior vice president and regional managing director for South East Asia with BearingPoint Consulting, based in Sydney, Australia.

Alan Oshima, Senior VP, General Counsel and Secretary
Alan Oshima is responsible for overseeing the legal, regulatory and external affairs of Hawaiian Telcom. He was founding partner of the law firm, Oshima Chun Fong & Chung, LLP. He has extensive regulatory and legal experience and prior to joining Hawaiian Telcom had been serving as lead counsel in The Carlyle Group's acquisition of Verizon Hawaii Inc.

Joan Kratz, Senior VP and Chief Marketing Officer
Joan has more than 20 years of telecommunications executive experience at the regional and national levels with such notable telecom leaders as BellSouth Corporation, Sprint Communications, and MCI Communications Corporation. Prior to joining Hawaiian Telcom, she had been with BellSouth since 1997, most recently as vice president – business marketing, where she contributed to strategic planning and investment priorities for the company. In that role, she reorganized the field marketing organization to increase productivity, developed a segmentation plan to improve customer targeting, and created a retention program that saved millions in revenue.

Linda Frank, Senior VP - Sales
Linda Frank oversees Hawaiian Telcom's general business sales organization. Prior to joining Hawaiian Telcom, she gained significant telecommunications experience service as vice president in several key capacities including running general market sales, building a new emerging markets sales and marketing organization, leading the carrier services business unit, and managing client

technical services operations as part of her 25-year career at Cincinnati Bell Telephone, which operates in the greater Cincinnati, Ohio area.

Michael Brown, VP - Sales Operations and Process Engineering
Michael Brown is responsible for sales operations across all sales divisions, order entry-to-collections business process engineering, the wholesale sales division, and the public communications payphone business. He has an extensive technology and telecommunications background that includes 16 years with various divisions of Lucent Technologies where he served, among other roles, as a sales vice president for optical, services and software.

Claire Cooper, VP - Human Resources
Claire Cooper leads Hawaiian Telcom's human resources function, serving a workforce of nearly 1,700 employees. She was born and raised in Hawai'i and has more than 20 years of human resource experience with large companies and specialized experience in change management, leadership and organization development, collaborative strategic planning, and training and development.

Ron Montgomery, VP and GM - Directories
Ron Montgomery is responsible for Hawaiian Telcom's directory publishing and Internet yellow pages business. His extensive publishing background most recently includes serving as president of Net-Linx America's an international software provider to the yellow page industry. In addition, he served as group vice president – publishing printing and distribution with Verizon Information Services, where he was responsible for nearly 2,000 employees and the production and distribution of 1,300 titles and over 130 million directories annually.

Jon Gelman, VP and GM - Wireless Services
Jon Gelman oversees Hawaiian Telcom's wireless division and is responsible for building it from the ground up. He had been area general manager – Nextel Partners, Inc., and was instrumental in launching the subscriber base that has grown to nearly 130,000 subscribers in just over five years. As a result, Hawai'i was consistently ranked in the number one or two slots in national Nextel rankings.

Patrick Hogan, VP - Finance and Controller
Patrick Hogan is an attorney and CPA with nearly 20 years of financial experience, including several years serving as a public company senior financial and accounting officer. He has supervisory responsibility at Hawaiian Telcom for tax, treasury, accounting, risk management, budget variance and cost analysis as well as regulatory reporting. Previously, he served as Chief Financial Officer for the tenth largest cable company in the United States, a facilities-based bundled provider of voice, video and data services.

Joel Matsunaga, VP - External Affairs
Joel Matsunaga is responsible for Hawaiian Telcom's regulatory and governmental affairs as well as its community relations activities in Hawaii. He began his career

with Hawaiian Telcom in 1979 when the company was known as GTE Hawaiian Telephone Company. During his 27 years with the company, he has held positions in marketing, revenues and earnings, network operations and regulatory organizations and as a result has extensive experience in various telecommunications functions.

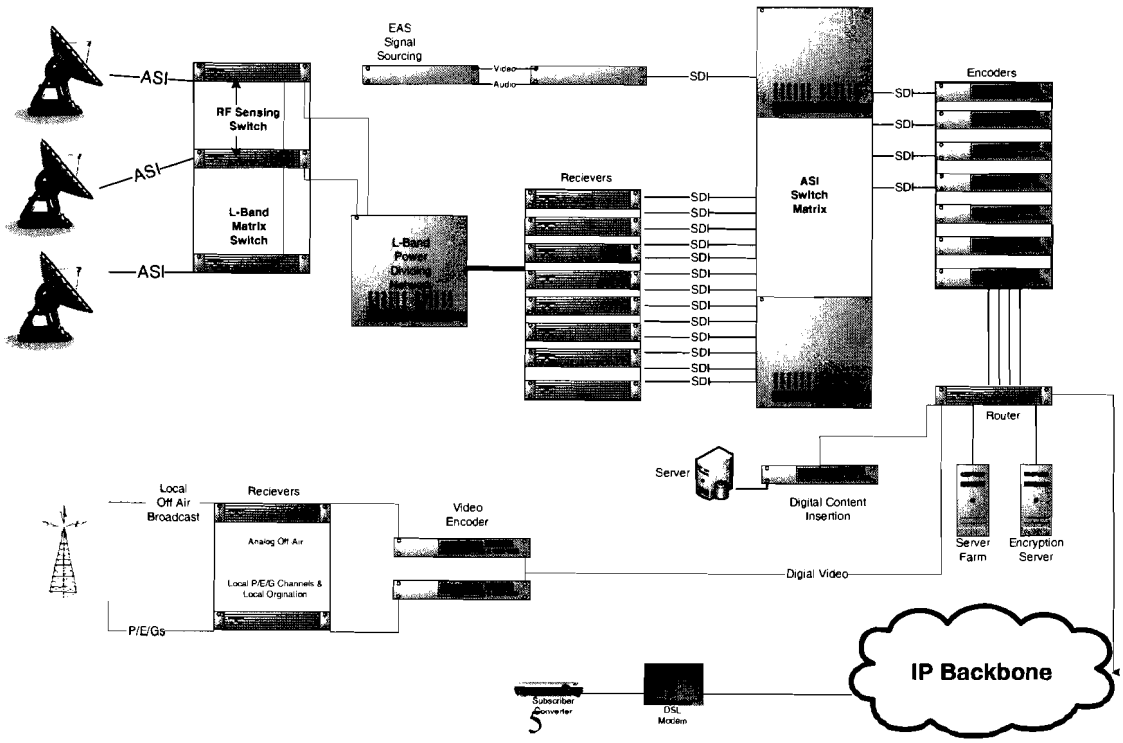
Dan Smith, VP – Corporate Communications
Dan Smith joined Hawaiian Telcom in August of 2005 and is responsible for media relations, employee communications, community relations and executive communications. Before coming to Hawaiian Telcom, he spent 15 years working in corporate communications at two Fortune 500 companies, GTE Corporation and Texas Instruments.

C. Description of Proposed System

Applicant must include a description of the cable system proposed to be operated and/or installed, including such detail as may permit a proper evaluation of the merits of the application.

A: Unlike traditional RF-based cable systems, Applicant's design utilizes Internet Protocol Television (IPTV) packet technology to deliver all-digital, video services over Hawaiian Telcom's second-generation Digital Subscriber Line (DSL) facilities based on ADSL2+ and VDSL2 technologies. This approach is highly beneficial to the State of Hawaii and its residents as it does not require a massive coaxial cable build-out (e.g., planting new poles, building new underground vaults and manholes, digging/trenching streets, etc.) in order to provide service.

A diagram of the Applicant's overall system design is illustrated below:



Applicant believes that utilizing world-class products, combined with its highly-skilled service organization, will deliver a competitive, quality product to its subscribers with best-in-class headend components to provide all-digital content and signal carriage via its advanced IPTV network.

Applicant will be able to offer a full suite of services and equipment in its IPTV system design that brings advanced digital video quality and flexibility in the services and applications in interactive television.

Applicant's design concept is to provide a component level flexible design that is repeatable for as many times as necessary to provide the programming content required. The system design employs an IP output encoder scheme to provide the greatest flexibility with output aggregators. Applicant's vendors have successfully engineered similar models to the one to be deployed. Applicant's head end provider's client list represents a significant number of the largest video content providers in the world.

Applicant's network hierarchy specific to the video subsystem is shown above. This design is used in other deployed IPTV architecture documentation but only including network element areas associated with video delivery. The network is comprised of the following major elements:

- A headend providing linear channel & Video on Demand (VOD) content aggregation.
- The access network between the central office and multiple or single dwelling living units

D. Tourist Programming

Please describe your plans, if any, to improve and increase programming for tourists.

A: Applicant intends to work with local companies and organizations that are producing content in this area. Specific plans and timetables are not available at this time.

E. Access Structure

Please indicate the elements of a preferred structure for access, a discussion of other alternative structures considered, and the reasons why the proposed structure is preferred.

A: Applicant intends to utilize the existing network infrastructure of Applicant's sister company, Hawaiian Telcom, Inc., to deliver video service, similar to how DSL service is ordered/accessed today

A.1. Ownership and Control Information

Provide the following information for all principals, officers, directors of Applicant,* and for beneficial owners of one percent or more of the outstanding stock or other ownership interest in Applicant. Beneficial owners include, but are not limited to, individuals, corporations, partnerships, joint ventures and unincorporated associations. Beneficial owners also include all prospective owners, including those to whom offers to become owners have been made and the offer has not been rejected.

Name **(if individual)** _____

(if organization) _____

Complete Mailing Address _____

Nature of Interest **Partner [ ] Officer [ ] Stockholder/Owner [ ] Director [ ]**

Profession or Occupation _____

Name of Employer

Address of Employer _____

_____

Number of shares of each class of stock or ownership interest in Applicant (including stock options, stock subscriptions and partnership options): _____

Method of payment for interest (cash, notes, services, etc.)** _____

If shares are used for security to obtain funds to pay for them, disclose full details of the transaction:

Percentage of ownership of partnership, voting stock or equity interest: _____

***If Applicant is a subsidiary of another controlling entity, provide the requested information for all controlling entities.**

****If notes, fully disclose terms thereof, including interest rate, repayment schedule and dedication or circling of future income stream, if any. If services, disclose the method of valuation.**

A: Applicant Hawaiian Telcom Services Company, Inc.

The following are the names, mailing addresses, titles, and stock ownership of all officers and directors of Applicant, and for beneficial owners of 1% or more of the outstanding stock of Applicant. None of the officers or directors of Applicant own stock in Applicant.

Officers of Applicant	Title
Michael S. Ruley	CEO & President
Daniel P. O'Brien	SVP, CFO & Treasurer
Alan M. Oshima	SVP, General Counsel & Secretary
David A. Torline	SVP & CIO
Joan M. Kratz	SVP & CMO
Linda D. Frank	SVP – Sales
Harvey A. Plummer	SVP – Engineering & Operations
Patrick T. Hogan	VP & Controller
Michael T. Brown	VP – Sales Operations
Lester K. Chu	VP – Strategy & Business Development
Claire K.S. Cooper	VP – Human Resources
Jon D. Gelman	VP & General Manager – Wireless Services
Galen K. Haneda	VP – Sales, Enterprise Accounts
James D. LaClair	VP – Network Operations
Joel K. Matsunaga	VP – External Affairs
Gilbert S. Mendelson	VP – Financial Planning & Analysis
Ron Montgomery	VP & General Manager – Directories
Francis K. Mukai	VP, Associate General Counsel & Asst Secretary
Blane Yokota	Assistant Secretary
Ryan Suzuki	Assistant Treasurer

Mailing Address: c/o Hawaiian Telcom Services Company, Inc., P.O. Box 2200, Honolulu, HI 96841

Directors of Applicant

Michael S. Ruley
Daniel P. O'Brien
Alan M. Oshima

Mailing Address: c/o Hawaiian Telcom Services Company, Inc., P.O. Box 2200, Honolulu, HI 96841

Beneficial owners of 1% or more of the outstanding stock of Applicant

Hawaiian Telcom Communications, Inc.

Mailing Address: P .O. Box 2200, Honolulu, HI 96841

To be completed by each organization or corporation which filled out Page 1 of Form A (not individuals).*

List all principals, officers, corporate directors, and beneficial owners of one percent or more of your own stock or ownership interest.

(For each name below that is the name of an organization or corporation, complete a new Page 2 of Form A for the entity until all ownership interests are identified at the level of individual owners of one percent or more.)

Name of Organization _____

Address _____

Name	**Address**	**Capacity**	**Ownership (Percent)**

***If Applicant is a subsidiary of another controlling entity, provide the information noted above for all controlling entities.**

A: Hawaiian Telcom Communications, Inc. and Hawaiian Telcom Holdco, Inc.

Applicant is a wholly-owned subsidiary of Hawaiian Telcom Communications, Inc. ("Communications"), which in turn is a wholly-owned subsidiary of Hawaiian Telcom Holdco, Inc. ("Holdco"). The shares of Holdco are owned by three Carlyle investments funds that in turn are owned by numerous private investors. An affiliate of The Carlyle Group is the general partner of the three investment funds.

The officers and directors of Communications are identical to the officers and directors of Holdco. The following are the names, mailing addresses, and titles of all officers and directors of Communications and Holdco and all beneficial owners of 1% or more of the outstanding stock of Communications and Holdco, as well as the stock ownership of such beneficial owners. None of the officers or directors own stock in Communications or Holdco, but officers and independent directors have been granted stock options in the stock of Holdco.

Officers of Communications and Holdco

Name of Officer	Title
Michael S. Ruley	CEO & President
Daniel P. O'Brien	SVP, CFO & Treasurer
Alan M. Oshima	SVP, General Counsel & Secretary
David A. Torline	SVP & CIO
Joan M. Kratz	SVP & CMO
Linda D. Frank	SVP – Sales
Harvey A. Plummer	SVP – Engineering & Operations
Patrick T. Hogan	VP & Controller

Mailing Address: c/o Hawaiian Telcom Communications, Inc., P.O. Box 2200, Honolulu, HI 96841

Directors of Communications and Holdco

Name of Director

Daniel F. Akerson
James A. Attwood, Jr.
Matthew Boyer
Walter A. Dods, Jr.
William E. Kennard
Raymond Ranelli
Michael S. Ruley

Mailing Address: c/o Hawaiian Telcom Communications, Inc., P.O. Box 2200, Honolulu, HI 96841

Beneficial owners of 1% or more of the outstanding stock of Communications

Hawaiian Telcom Holdco, Inc.

Mailing Address: P .O. Box 2200, Honolulu, HI 96841

Beneficial owners of 1% or more of the outstanding stock of Holdco

The following investment funds own all the shares of Holdco, received in exchange for cash contributions to Holdco:

Name of Investment Fund	Number of Shares	% of Ownership
Carlyle Partners III Hawaii, L.P.	880.1369 Shares	88.0
CP III Coinvestment, L.P.	49.7696 Shares	5.0
Carlyle Hawaii Partners, L.P.	70.0935 Shares	7.0
Total	1,000.0000 Shares	100.0

Mailing Address:
c/o The Carlyle Group, 520 Madison Avenue, 42nd Floor
New York, New York 10022

A.2. Stock Information

(A) Stock of Applicant corporation:

Class of Stock	Par Value	Vote Per Share	No. Shares Authorized	No. Shares Issued	No. Shares Subscribed	Total No. Stockholders
Common	No Par	1	1	1	1	1

(B) Does Applicant have any other obligations or securities authorized or outstanding which bear voting rights either absolutely or upon any contingency?

A: No

(C) Is Applicant corporation directly or indirectly controlled by another corporation or legal entity?

If "yes," please explain. Detail agreements or procedures, if any, which assure that policy and operational control over the proposed cable television system shall remain vested in Applicant.

A: Yes, Applicant is wholly-owned by Hawaiian Telcom Communications, Inc., which in turn is wholly-owned by Hawaiian Telcom Holdco, Inc. ("Holdco"). The stock of Holdco is owned by three investment funds of which an affiliate of The Carlyle Group is the general partner. Applicant is a distinct corporate entity whose operational control is vested in its officers and whose policy decisions are controlled by its Board of Directors.

(D) Is Applicant or any principal assisting any equity owner in obtaining funds with which to pay for shares? If so, disclose full details of the transaction.

A: No

(E) Are any dividend payments guaranteed or any class of shareholders to be treated differently from any other class? If so, please explain.

A: No

(F) Is any owner of any equity interest obligated or expected to be obligated to repay, guarantee or otherwise be responsible for any outstanding debt of Applicant? If recourse exists with respect to the assets of same but not all equity owners, disclose details of different treatment.

A: No

A.3. Ownership Disclosure

Applicant, including all shareholders and parties with any financial interest in the Applicant, must fully disclose all agreements and understandings with any person, firm, group, association or corporation with respect to the franchise. This includes agreements between local investors and national companies. Failure to reveal such agreements will be considered withholding of pertinent information and will be considered cause to withhold or revoke award of the franchise.

A: Applicant, including all shareholders and parties with any financial interest in the Applicant, does not have any agreements or understandings regarding the ownership or control of the franchise or video system.

A.4. Please provide the most recent Form 10-K, if any, for all related or controlling entities of Applicant.

A: No related or controlling entities of Applicant have filed a Form 10-K.

CHARACTER QUALIFICATIONS

Please provide the following information about Applicant and any controlling entities (hereinafter collectively referred to as "Applicant").

Please identify all controlling entities for which information is provided.

B.1. For the ten-year period immediately preceding the filing of the application, please provide the following information as to Applicant:

a. Has any court entered any judgment, decree or order which determined that Applicant engaged in any activity that involved:

(i) unfair or deceptive trade practices, perjury, fraud, dishonesty, organized crime or racketeering; or

(ii) violation of applicable federal, state, or local cable communications law or rules; or

(iii) violation of cable franchise provisions; or

(iv) violation of the rules, regulations, codes of conduct, or ethics of a self-regulatory trade or professional organization?

If so, please describe each such judgment, order or decree and provide a copy thereof.

A: No

b. Has any administrative entity made any finding or entered any order or decree which determined that Applicant engaged in any activity that involved:

(i) unfair or deceptive trade practices, perjury, fraud, dishonesty, organized crime or racketeering; or

(ii) violation of applicable federal, state, or local cable communications laws or rules; or

(iii) violation of cable franchise provisions; or

(iv) violation of the rules, regulations, codes of conduct, or ethics of a self-regulatory trade or professional organization?

If so, please describe each such finding, order or decree and provide a copy thereof.

A: No

c. **Has Applicant or any of its officers, directors, or management employees been convicted of any felony criminal offense which involved perjury, misrepresentation, fraud, theft, or bribery? If so, please provide full information concerning each such conviction.**

A: No

B.2. Has any cable television franchise held by Applicant been suspended or revoked? If so, please state the relevant circumstances for each such suspension or revocation.

A: Not applicable. Applicant has not previously held a cable television franchise.

B.3. Has any application submitted by Applicant for a new cable television franchise been denied or withdrawn after receipt of a formal or informal notice of an intent to deny? If so, please state the relevant circumstances for each such denial or withdrawal.

A: Not applicable. Applicant has not previously applied for a new cable television franchise.

B.4. Has any application for a transfer of a cable television franchise to Applicant been denied or withdrawn after receipt of a formal or informal notice of an intent to deny? If so, please state the relevant circumstances for each such denial or withdrawal.

A: Not applicable. Applicant has not previously applied for a new cable television franchise.

B.5. Has any application submitted by Applicant for a renewal of a cable franchise been denied or withdrawn after receipt of a formal or informal notice of an intent to deny? If so, please state the relevant circumstances for each such denial or withdrawal.

A: Not applicable. Applicant has not previously applied for a new cable television franchise.

CABLE HOLDINGS OWNED BY APPLICANT

C.1. Existing Cable Franchise Interest

Please provide the following information for the five largest holdings (franchises/license and systems) in which Applicant or any principal* owns one percent or more of stock or other equity interest. Tabulate the data in any convenient form.

A: The Carlyle Group and related entities own a majority interest in Insight Communications, the ninth largest cable operator in the U.S.

Name of Franchise Area/Location of System	Louisville, KY	Lexington, KY	Columbus, OH	Springfield, IL	Rockford, IL
Date of Franchise/License Award or Acquisition (indicate whether award or purchase)	10/30/1999 (acquisition date)	10/30/1999 (acquisition date)	8/21/1998 (acquisition date)	1/5/2001 (acquisition date)	1/22/1998 (acquisition date)
Franchise Term	expires 3/31/2010	15 years	12 years	10 years	10 years w/a 5 year extension
Date of Expiration	3/31/2010	9/2/2007	11/30/2006	9/21/2015	9/17/2008
Homes in Franchise Area	111,414[4]	108,288[4]	301,534[4]	86,202[5]	141,175[4]
Homes Passed	307,558[1]	142,989[7]	110,798	63,997	70,924
Number of Subscribers	147,101[1]	79,248[7]	44,928	35,896	36,106
Route Miles	3522.37[1]	1354.22[7]	943	734.95[2]	1195.77
Channel Capacity	750 Mhz	750 Mhz (analog 78 channels / digital 32 channels[3])	870Mhz/450Mhz	870 Mhz (134[3])	750 Mhz (115[3])
Number of Local Origination, Access, and Institutional Channels	3 total channels: Public, Educational and Governmental. 1 public access studio.	6 total channels: Public, Educational and Governmental	3 total channels: Public, Educational and Governmental	4 total channels: 1-Government, 1-Educational, 1 – Public, and 1 - Local	2 total channels: 1 -PEG, 1 Local Origination

Name and Addresses of Local Government Officials Responsible for Cable Operations	Jerry Abramson, Mayor Metro Hall / 4th Fl. 527 W. Jefferson St. Louisville, KY 40202	Teresa Issaac,Mayor Lexington-Fayette Urban County Government 200 East Main Street Lexington, KY 40507	Gary Cavin, Director of Technology City of Columbus 90 West Broad St. Columbus, OH 43215	Tim Davlin, Mayor Municipal Bldg. - 313 Municipal Center E. 800 East Monroe Springfield, IL 62701	Mayor Lawrence J. Morrissey 425 E. State Street Rockford, IL 61104
Franchise Fee (as % of total gross cable-related revenues)	franchise fees no longer applicable - KY State Excise Tax imposed effective 1/1/2006[6]	franchise fees no longer applicable - KY State Excise Tax imposed effective 1/1/2006[6]	5% of gross revenues from the provision of cable services	5% of gross revenues from its cable television operations	5% of gross revenues from its cable television operations

[1]includes data for the surrounding communities within Jefferson County – Louisville Metro Area
[2]includes route miles for the surrounding communities of Leland Grove, Jerome, Southern View, Grandview and Rochester
[3]this does not reflect the capacity the cable system has to digitally compress channels
[4]total households per the U.S. Census Bureau, Census 2000 – for certain City's includes MSA (with outlying areas)
[5]total households for the City of Springfield per the Greater Springfield Chamber of Commerce website
[6]the KY Excise Tax is 3% of Multi-Channel Video Revenue. Simultaneous with the Excise Tax, KY imposed an additional a 2.4% Gross Revenues Tax on multi-channel video revenue and a 1.3% Tax on telephone revenues
[7]includes entire Lexington/Fayette County area

Carlyle related entities also hold a minority interest in a cable company located in the Netherlands.

***For purposes of this form, "principal" means any officer or director of Applicant, and any person, firm, corporation, subsidiary, joint venture or other entity, who or which owns or controls one percent or more of the voting stock (or any equivalent voting interest of a partnership or joint) of an Applicant.**

**** If a cable system encompasses agreements with more than one franchising authority, provide the requested information for each franchising authority.**

FINANCIAL RESOURCES

Please describe in detail the financing plan for any construction and the continuing operation of the Applicant's cable system. Documentation of the debt or financing is to be provided by any funding organization. If the funding is to be provided thru any parent, then the ability to obtain financing and sources of the parent must be documented including financial statements of the parent. Proof of financial capability shall include the following:

D.1. Source of Financing

(A) Equity -- What are the sources and amount of equity capital? List all committed sources and the amount committed. Indicate whether such source and amount is committed and or merely a projected plan of possible financing.

A: See confidential Exhibit D.1.

(B) Long-Term Debt -- What are the sources and amount of long-term debt? List all committed sources and the amount committed. Indicate whether such source and amount is committed and or merely a projected plan of possible financing. Specify any covenants in the debt agreements which may constrain the application of the debt to finance the Hawaii system.

A: See confidential Exhibit D.1.

(C) Short-term Debt -- What are the sources and amount of short-term debt? List all committed sources and the amount committed. Indicate whether such source and amount is committed and or merely a projected plan of possible financing. Specify any covenants in the debt agreements which my constrain the application of the debt to finance the Hawaii system.

A: See confidential Exhibit D.1.

(D) Provide the name, title, address and telephone number of an appropriate contact person of each lending institution or other source providing financing or other financial services to Applicant.

A: See confidential Exhibit D.1.

D.2. Terms of Financing: (Provide information for each source of debt financing.)

(A) Amount -- Long Term $_____ Term Length _____

Amount -- Short Term $_____ Term Length _____

(B) List conditions under which the financing is to be made available. List restrictions on availability or use of funds.

(C) List interest rates, payback and other terms.

(D) List collateral involved.

(E) List guarantors.

(F) Attach copies of any related agreements made in connection with financing of this project.

(G) Describe any interrelationships between any source of debt financing and Applicant or any principal.

(H) Describe any limitations on the sale of stock by individual holders in this project.

(I) Describe any buy-out or buy-back stock provisions.

(J) Describe any assignments or intended assignments of stock voting rights.

A: See confidential Exhibits D.1 and D.2.

D.3. Operator Liability

(A) Will any other entity besides the Applicant be legally liable for the obligation and performance of the Hawaii system?

A: No

(B) If the Applicant proposes that persons or entities other than the Applicant shall be legally liable for the obligations and performances of the Hawaii system, provide complete financial data for said persons or entities or indicate where such data is located in the application, and state clearly the degree to which they will incur such liability.

A: Not applicable.

D.4. Documentation of Financial Viability

How much of the Applicant's line of credit is presently uncommitted and will be applied and committed to any construction and the operation of the Hawaii system?

If the Applicant is a division or subsidiary of an MSO, please provide the proposed debt instrument, describing terms of payment for an upgrade or upgrades and the parties involved in these payments.

If capital is to be raised by a parent company or related entity, provide an annual report for the parent company related entity.

If future refinancing is anticipated, describe proposed terms and arrangements.

A: See confidential Exhibit D.4

D.5. Previous System Financed

Describe in detail the financing arrangements utilized by Applicant and/or parent and/or principals to acquire or construct cable systems within the past ten years.

A: Not applicable.

D.6. Contact in Outside Audit Firm

For Applicant, any parent company, and the principals, provide the name, title, address and telephone number of an appropriate contact person in each outside audit firm utilized within the past five years.

A: Current Outside Audit Firm
Paul Higo
Deloitte & Touche LLP
1132 Bishop Street, Suite 1200
Honolulu, Hawaii 96813

Past Outside Audit Firm
Dennis J. Deutmeyer
Ernst & Young LLP
Telephone: 212-773-9199

FINANCIAL PRO FORMA

Note: All Pro Forma projections should be made in NOMINAL DOLLARS.

E.1. **Please provide the information indicated for years one through twenty. In financial statements which request twenty year projections, Applicant shall include subtotals as appropriate for each five year interval. If the application being filed is for a new, initial franchise, forms which request twenty year projections should be construed as requesting information for fifteen years. In such cases, subtotals as appropriate for five year intervals must be included.**

All financial projections shall be on a calendar year basis commencing on January 1st unless prior approval for a different starting date is obtained from the State. Format the specified information in a manner that is convenient and conserves paper, but be sure to respond to all required items in the order and basic format listed. Computer printouts are acceptable, but should be legible when reduced to an 8-1/2" x 11" page.

A: See confidential Exhibit E.1.

E.2. **Basis of Subscriber Penetration**
Explain how your subscriber and penetration figures are obtained.

A: See confidential Exhibit E.2.

E.3. **Financial Goals**

Present, in brief narrative form, Applicant's financial goals. Specifically, include in your discussion financial targets for operating income, pre-tax income, and desired rate of return. What is the basis for rate of return? How is rate of return calculated? If the discounted cash flow method is used, what is the investment based upon which the return is calculated? What are the items considered as cash out-flows, in-flows? What residual value is assumed for the system at the end of the franchise period?

A: See confidential Exhibit E.3.

E.4. **Income Statement**

A: See confidential Exhibit E.4.

E.5. **Computation of Income Taxes**

Please describe how income taxes are computed. Will federal income taxes be consolidated with a parent company or other entity? If not, show treatment of loss

carry-forwards and investment tax credits on property placed in service before 1986 (if applicable).

A: Applicant calculates the income tax provision, current and deferred income taxes along with the valuation allowance based upon various complex estimates and interpretations of income tax laws and regulations. Income taxes are projected to be a part of Applicant's consolidated income tax calculation.

E.6. Sources and Uses of Funds

A: See confidential Exhibit E.6.

E.7. Anticipated Capital Expenditures

A: See confidential Exhibit E.7.

E.8. Future Subscriber Network Construction Costs

A: See Exhibit E.8.

E.9. Anticipated Institutional Network Construction Costs

A: See response to question G.17.

E.10. Depreciation Schedule

A: See confidential Exhibit E.10.

E.11. Employee Training and Certification

Describe proposed use of special employee training programs and relate the proposed programs to the foregoing payroll information. Describe certification processes proposed for technical personnel, describe procedures to be used to verify that field employees are completing work as assigned, and describe methods to be used to check on the quality of field work.

A: Many of the skills, process and procedures of the video business are extensions of Hawaiian Telcom's current expertise.

Certification

IPTV technology in the field is based on sending data over copper, coax and/or fiber optics. Applicant's sister company, Hawaiian Telcom, Inc., is the premier company in Hawaii in the construction of copper facilities. While there are no certification process, per se, for copper installation, Hawaiian Telcom has demonstrated its ability to construct complex and large scale copper facilities. Hawaiian Telcom is similarly

qualified in the construction of fiber systems. Last year, Hawaiian Telcom completed a training program on Oahu in which 95% of its construction splicers were formally trained in fiber optics. The training program is being expanded to Hawaiian Telcom's Neighbor Island technicians.

Also relevant is Applicant's demonstrated expertise in building and maintaining complex IP data networks. Currently, Hawaiian Telcom has twelve personnel designated as either Cisco Certified Network Associates, Cisco Certified Network Professionals, or Cisco Certified Internetwork Experts. Applicant will leverage this expertise in its IP-based video business.

Completing the Work Assigned

Hawaiian Telcom will leverage its current organizational structure to support the video initiative. All work in the field is centrally controlled by a Dispatch Resource Center (DRC) which monitors all installation orders and repairs statewide. The dispatchers track all jobs via sophisticated computer systems that are linked to the customer call centers that are generating the orders and trouble tickets. Applicant will track all work in the video initiative in a similar manner.

In addition, the DRC has text messaging, cell phones and, in some cases, GPS monitoring of all technicians, providing multiple means of directing the techs to complete the work as scheduled.

Quality Control

The quality of the deployment will be ensured in several ways. First, Hawaiian Telcom's centralized Network Operating Center (NOC) is able to test the lines serving the customers remotely. The tests will be conducted before installation and during any trouble resolutions. The remote test capability will insure that the work performed will meet industry standards. Applicant will require that the lines serving the customer be tested after installation with state of the art test equipment. If the installation does not meet the required industry standard parameters for the service requested by the customer, Applicant will deploy highly trained technicians equipped with more sophisticated test equipment.

The combination of quality installation, remote testing of installation and remote testing/evaluation of the serving circuits to the customer provide several layers of independent verification of quality service.

During the early stages of the rollout, Applicant will randomly inspect each installation for quality workmanship.

E.12. Services Purchased From Any Controlling Entity

A: Not applicable.

ANTICIPATED CONSTRUCTION PRACTICES

F.1. Use of Turnkey Contractor

Will any anticipated construction be undertaken by a turnkey contractor? If "yes," who is the turnkey contractor and what are their qualifications?

A: Applicant has not yet determined if other construction companies are required in the deployment of video. Hawaiian Telcom has, however, working agreements with Verizon Federal, Henkels & McCoy and Volt. These companies all have construction crews with the suitable skills to build the network.

F.2. Availability of Construction Personnel and Equipment

Discuss availability of work crews and equipment to ensure compliance with any construction schedule for line extensions, upgrades, interconnects, etc. Detail outstanding agreements with construction companies or equipment suppliers. Supply copies of any commitments regarding these particular projects.

A: See response to F.1 above. It should be noted that Hawaiian Telcom has the largest outside plant construction crew in the State of Hawaii that is equipped to build fiber and copper networks on a large scale.

F.3. Construction and Safety Standards

Discuss proposed construction standards dealing with safety and reliability. List construction codes that will be followed. Describe planned safety/security provisions for the cable system.

A: The construction of the IPTV network involves essentially the construction of fiber networks, copper facilities and inside wiring. All of these disciplines overlap with Hawaiian Telcom's telecommunications expertise. Applicant sees no difference in the safety and security practices and procedures between constructing the IPTV network from its current telecommunication business. All safety and security measures currently in place, will apply to the video business.

F.4. Tower Construction

List or discuss standards to be followed regarding tower construction, marking and lighting.

A: The planned video service will be based on Hawaiian Telcom's DSL network and communications network infrastructure. Construction of new towers is not required to implement the video business.

F.5. Construction Manual

Do you have a manual of construction practices to be followed by construction crews?

A: The construction of the IPTV network is based on the same technology as Hawaiian Telcom's current telecommunication's network. Hawaiian Telcom has volumes of construction practices from placing cable, splicing, constructing of manholes, poles, central offices, etc. that are already available as per Public Utility Commission (PUC) requirements.

If "yes," attach a copy of the manual.

A: The practices are too voluminous to transmit as a single construction document but are being submitted in the CD marked Exhibit F.5.

F.6. Detailed Construction Drawings

With regard to any upgrades, line extensions and other major improvements which will be installed during the next five years, provide:

(A) Detailed construction drawing(s)/specification(s) of typical poles.

(B) A map illustrating sections of the cable distribution system which would be installed overhead and which would be installed underground, and indication of the lengths of these sections to the approximate nearest tenth of a mile.

(C) Identification of areas in which existing utility poles would be used, and areas in which new poles would have to be installed, estimated number of new poles which would be required, and the approximate distances between poles.

(D) For any underground cable sections which would be installed outside public treet rights-of-way, indicate the locations and lengths to the approximate nearest tenth of a mile.

(E) The width and depth of any underground trenching.

(F) Identification of any freeways, railroads or waterways (including creeks) to be crossed by the cable distribution system, and locations of crossing.

A: Not applicable. Applicant will be using Hawaiian Telcom's existing network.

F.7. Underground Policy

Describe the policy proposed for undergrounding cable, including cost sharing with other utilities and proposed arrangements with residential developers. Indicate

whether any undergrounding will occur in areas where utilities are not undergrounded. Indicate criteria for determining whether underground cable will require conduit, or can be buried directly. Also indicate the extent to which underground vaults will be used for subscriber taps rather than above ground pedestals.

A: Hawaiian Telcom has sharing agreements with all electrical, county and state governments in how cost is shared on commonly used infrastructures. Hawaiian Telcom will continue to comply with the provisions of these agreements in its deployment of video service.

Applicant has recognized the need to work closely with residential developers to provide video service. It is still in the process of developing this relationship. Applicant has recognized the importance of working with the residential developers and at the start of the year appointed a Director – Multi-Dwelling Units (MDU) to lead Applicant efforts with these developers.

However, it should be noted that Hawaiian Telcom has a long, working relationships with all residential developers, their general contractors, and their consultants. Generally, the requirement to underground is imposed on the residential developer, as a condition of development. Applicant will work with these developers, as it has in the past, to cooperatively build the network.

F.8. Equitable Extension of Service

(A) Provide the following information concerning policies related to the extension of cable television service to residential subscribers:

(1) Describe your proposed policy about cable service being available to all subscribers in the franchise area.

A. Applicant's video service will be delivered using ADSL2+/VDSL2 protocols. These technologies are similar to ADSL which has been used for years in Hawaii to deliver high-speed internet access. ADSL2+/VDSL2 provides the higher bandwidth required to deliver 100% digital video services. Similar to the deployment of ADSL for high-speed internet access, plans to further extend coverage of Applicant's video service will be based on consumer demand for the service. See confidential Exhibit F.8(A) attached hereto.

(2) Comment on a policy requiring cable service to be coextensive with telephone and electric service.

A: The Applicant's proposed video service will be delivered via high speed DSL lines. These lines are already coextensive with telephone service as they are both delivered on the same network facilities.

(3) Describe plans to provide cable service to those portions of the franchise area which are presently without service.

A. Similar to the deployment of ADSL for high-speed internet access, plans to further extend coverage of the Applicant's video service will be based on consumer demand for the service.

CHANNEL CAPACITY AND SYSTEM DESIGN

This form requires information on the current and proposed designs of the system, channel capacity, and equipment to be utilized. It will be presumed that the equipment described in response to the questions, or its equivalent, is being used or will be used in actual operation and construction. As an alternative, Applicant may provide detailed specifications for such equipment.

In response to those questions herein regarding headend and reception facilities (G.3.), earth stations (G.4.), central facilities (G.6.), and other facilities as appropriate, please address backup procedures and facilities and any special maintenance procedures or system configuration techniques intended to ensure the reliability of these critical components.

For any facility proposed that is a relatively new technical design and not in common use by numerous other systems, provide adequate data to demonstrate the technical feasibility and reliability of the equipment and system involved. Include copies of any studies regarding provision of the service in other communities, or any calculations relating to the reliability of service availability and similar factors. This applies to automated channels (G.8.), emergency alert system (G.9.), subscriber converters (G.10., G.11), closed captioning services (G.12.), service level isolation (G.13.), home alarm service (G.14.), interactive services (G.15.), and any other equipment or services of a new or innovative nature. The purpose of this information is to permit the State to evaluate the probability that a viable and reliable service will be provided.

G.1. System Mileage and Configuration

(A) Indicate the plant miles of Subscriber Network. If a separate institutional cable is discussed, indicate the miles of Institutional Network. Indicate the mileage of any other network facilities and describe the functions of those facilities. Indicate the extent to which any overlap exists between the Subscriber Network and Institutional Network.

	Plant Miles
1. Subscriber Network - basic subscriber system.	**13,100**

A: Applicant will be utilizing Hawaiian Telcom, Inc.'s existing network to deliver its video service.

2. Institutional Network (if separate institutional cable is proposed).	**See response to Section G.17**
3. Other (explain).	**Not Applicable.**

(B) Describe the configuration of the overall cable system, including microwave, coaxial cable, fiber optic, or other intraconnect, as well as multiple headend or hub facilities that will be used to provide coverage to the complete franchise area.

A: Applicant's video system will transport video content via Hawaiian Telcom's second-generation DSL network. Video content is digitized, packetized and encrypted at the headend for transport across Hawaiian Telcom's private IP backbone. The transport and access network consists primarily of fiber facilities between Central Offices (COs) and remote terminals (Fiber To The Node – FTTN design methodology) with last mile access provided via copper-based local loop facilities. New Central Office construction, underground trenching, new utility pole construction, etc. will not be required to augment and upgrade Hawaiian Telcom's DSL network to second-generation DSL technology. The implementation of Applicant's proposed video system will have minimal environmental impact.

Initial system deployment consists of a single headend that will be built in an existing Hawaiian Telcom facility. The distributed architecture provides flexibility to easily add additional headends and application servers as required.

Applicant believes that utilizing world-class products, combined with an excellent service organization, can help deliver a competitive, quality product to subscribers. Furthermore, Applicant can offer a full suite of services and equipment in its video system design that can bring advanced high quality digital video and flexible services and applications in interactive television.

Third Party Products – Many of the third party products we propose to integrate into our solutions have already been integrated into successful IPTV projects located all over the world.

Design Concept – Applicant's design concept is to provide a component level flexible design that is repeatable for as many times as necessary to provide the programming content required. IP output encoder schemes for this project provide the greatest flexibility with output aggregators.

The network is comprised of the following major elements:

- A super headend providing local, linear channel & VOD content acquisition.
- The access network between central office and multiple or single dwelling living units.
- The in-home network with residential gateway and set-top box.

Acquisition and aggregation of national-level linear TV programming on demand content acquisition and deployment occurs at the super headend. Linear programming is received via satellite and processed for delivery

via Hawaiian Telcom's private IP backbone network. Video traffic is distributed to the subscriber via intermediate offices (IOs) over GigE links. The central offices (COs) are connected to the IOs to further distribute the traffic towards subscribers. In some cases, the CO and IOs functions may be collocated. Traffic reaches subscribers via either FTTN access platforms. FTTN equipment is connected to the CO via GigE links. The FTTN equipment may also be located in the CO.

A network interface device (NID) and residential gateway with built-in ADSL2+ or VDSL2 modem comprise the customer premise equipment (CPE) network equipment. Within the home, each television requires a subscriber converter or set top box.

(C) List all public buildings (including education and library buildings) that will be capable of receiving service.

A: Applicant's video service will be available at any public building with qualified second-generation DSL service.

G.2. <u>Distribution System Equipment</u>

a. <u>For existing system.</u>

(i) Provide the manufacturer, type and model number for all distribution system equipment. Include all items on the following list in addition to any other items used in the present system. Detailed equipment specifications are also acceptable.

Cable:
- **Aerial**
- **Buried**
- **Drop**

Active Electronics:
- **Trunk Amplifiers**
- **Briding Stations**
- **Line Extenders**
- **Power Supplies**
- **Standby Power Systems**
  - **Distribution System**
  - **Institutional System**
  - **Alarm System**
- **Converters**
- **Addressable Taps**
- **Lock-Out Devices**
- **Other**

Passive Electronics:
Splitters
Power Combiners
Subscriber Taps
Connectors
Other

A: Not applicable. Applicant will be building a new system. Please also refer to the response to question G.2.b below.

(ii) For all components, provide a general assessment of remaining useful life or of obsolescence with respect to any proposed channel expansion. A study reporting results of sampling of a representative segment of the system may also be submitted.

A: Not applicable.

b. **<u>For proposed equipment replacement, new construction, or upgrade.</u>**

(i) Provide the manufacturer, type and model number for all distribution system equipment. If any equipment is not presently available for purchase, indicate the status of development. Include all items on the following list, if proposed, in addition to any other proposed items. Detailed equipment specifications are also acceptable.

Cable:
Aerial
Buried
Drop

Active Electronics:
Trunk Amplifiers
Briding Stations
Line Extenders
Power Supplies
Standby Power Systems
Distribution System
Institutional System
Alarm System
Converters
Addressable Taps
Lock-Out Devices
Other

Passive Electronics:
Splitters
Power Combiners

Subscriber Taps
Connectors
Other

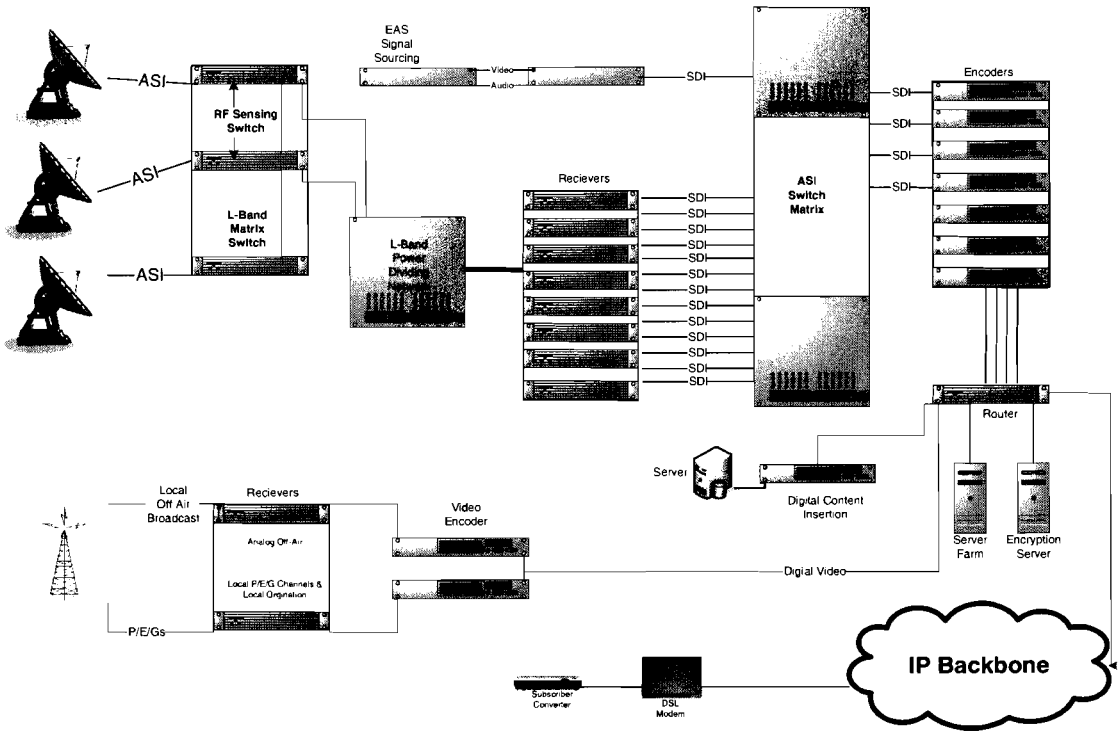
A: Hawaiian Telcom's second-generation DSL architecture is based on the following core components: Alcatel 7750 Service Router, Alcatel 7450 Ethernet Services Switch, 7330 Service Access Manager. Hawaiian Telcom's existing fiber and copper cable facilities will be used to deliver Applicant's video service. Traditional RF-based cable network components (e.g., Active electronics, converters, splitters, etc.) are not applicable to Applicant's IPTV-based network architecture. Product Specifications for these network components are included in Exhibit G.2 attached hereto.

G.3. Design of Headend and Reception Facilities

Describe headend design and reception facilities. List the height and type of towers used (i.e. guyed or self-supporting), the make and model numbers of antennas, signal processors, modulators, demodulators and all equipment used for the FM audio services. Indicate for any new sites to be used whether signal studies or measurement programs have been undertaken in selecting the proposed site(s).

Indicate the carrier-to-noise ratio available at the output of the headend for each signal received off the air. If the initial system does not include a full complement of any item, such as headend channel processors, describe the provisions that will permit orderly addition of the remaining equipment. Describe any HRC or IRC channelization used. Describe the use of any common video synchronization. Indicate whether FM radio signals are individually processed.

A: Applicant's headend design is illustrated below:



Applicant's headend design concept is to provide a component level flexible design that is repeatable for as many times as necessary to provide the programming content required by Applicant. Applicant will utilize an IP output encoder scheme for this project to provide the greatest flexibility with output aggregators. Design criteria will separate these modular systems by signal type, placing all of the standard definition ("SD"), high definition ("HD") and music programs respectively into their own dedicated modular designs. Applicant's headend design has been successfully engineered and is similar to other successful telephone company IPTV deployments. Applicant's vendor list represents a significant number of the largest video content providers in the world. Applicant's super headend reception facility will have an unobstructed view of all required satellites for full reception of all linear content programming.

Applicant's SD SDI content from a matrix switch would be routed to a Signal Processing platform. Each signal may have unique requirements, but the signal features of the platform are available to each stream, and configured as necessary for best program quality. The following are examples of pre-and post-processing that is provided.

- Audio is directed through a full audio processing amp which includes gain, mute, polarity controls, etc. Next, the audio is directed through flexible delay controls with variable offsets to match common requirements of all processed audio. This intelligent system tracks the video delay for match of timing.

- SDI video in applied to time-base correction, and a video processing amp. Processing features include a frame synchronizer and video noise reduction circuitry. Adjustments available include video gain, black level, chroma gain, National Television Standards Committee ("NTSC") hue, horizontal Y/C timing and picture position. The intelligent system includes user selectable output default on loss of input of frame freeze, pattern or input pass.

HD content streams are engineered to pass directly to their respective ACE groups. HD Synchronizers would provide pixel precise genlock adjustment, video controls for black level, a master video gain, Y Gain, Cb/Cr Gain, and built-in Test Pattern generation that is remotely controllable.

In addition to the satellite signal acquisition, Applicant's headend is the point in the network where regional or local content is collected for the area broadcasters. This content is processed and added to the digital stream. Two types of local broadcasts are typically available for acquisition, the traditional analog broadcasts and the digital broadcasts of nearby affiliates. The two common methods of reception of local feeds are an off-air antenna system to pick up the transmission or a direct fiber connection from the broadcaster. A mix of terrestrial and fiber-based reception will be used.

Applicant's video service will utilize a built-in synchronizer for SDI on the digital IRDs, The encoders offer a level of built-in noise reduction as a standard feature without incorporating external devices.

Applicant's processing platform provides several fundamental functions within its overall structure. These functions are listed here, and applied in the sections below to various types of program content:

- Analog to Digital conversion of baseband content
- Audio Embedding for attachment to digital video stream
- 1:1 SDI Switching to provide for failover equipment insertion
- Noise reduction circuitry that is controllable to be applied as needed for content
- Frame synchronization with horizontal and vertical phasing control
- The audio-only music content channels by Applicant will be received from a single satellite transponder. Due to the number of channels required, two satellite receivers are required. The required receivers for this content are redundant, with a duplicate receiver that is online and operational for the same programming. Unlike the video, these streams are in ASI format. The music content is essentially considered a "pass-through", not requiring any signal processing since it is carried very cleanly in its native format. Local FM Audio content will also be received, converted and combined in ASI format.

G.4. Design of Earth Station

Describe any satellite earth station including appropriate technical specifications (e.g., size of antenna; manufacturer of antenna; low-noise amplifier make; model number and noise figure; receiver make and model number, standby power, etc.)

Indicate whether frequency coordination studies, on-site measurements, and TVRO link analysis have been performed, and attach copies of any completed studies. Indicate whether the earth stations are protected by FCC license.

A: Satellite Antenna Earth Station – the Applicant's earth station design includes 1 Single ATCi Simulsat 7 Antenna and 3- SA model 8345 5.0 M C/KU band equipped with Dual polarization Ku-band feed systems. Based on the provided channel lineup, this will result in a potential for 24 C-band Low-noise Block Converter ("LNB") feeds, and 6 Ku-band LNB feeds. One ViaSat 3.7M steerable antenna for backup and/or "extra-use" applications designed to allow for automated failover protection using this antenna.

LNBs – Each antenna is equipped with a cable television ("CATV") quality LNBs. LNBs for C-Band specification are 3.4 - 4.2 GHz. Input with 950 -1750 MHz. Output, 20 Degree noise temperature, 58dB gain Typical. Ku-Band LNBs specifications are 11.7 – 12.2 GHz. Input, 950 – 1450 MHz. Output, 190 Degree Noise Temperature, 58 dB gain typical. 1:2 protection system provides redundant powering for the LNBs to prevent outages due to loss of a single power supply. Design will include bandpass filters for C band to protect against radar interference.

Satellite Receivers:

- Scientific Atlanta Satellite Receiver Equipment for the Analog Programming (Model 9660-IRD and/or DSR-4500)
- Scientific Atlanta Satellite Receiver Equipment for the Digital Programming (Model 9223, 9228 and/or DSR-4400MD)
- Motorola Digital Satellite Rx, Model 4402X
- Motorola Digital Satellite Rx, Model 4500X
- Motorola Digital Satellite Rx, Model 4400MD
- Wegener Unity 4600 Digital Receiver

G.5. Standby Power

(A) **Describe standby power at the headend, hubs, satellite terminal and cable distribution system. Give make and model numbers of equipment as well as time capacity. Indicate whether environmental systems (i.e., air conditioning**

and lighting) are to be powered during standby conditions. Indicate the physical dimensions and weight of distribution system standby power supplies.

A: Applicant's headend facility standby power design is two-fold. Major fixed network equipment will operate off a 125KVA Model Comet 480/480 Uninterruptible Power Supply (UPS) configured to provide approximately 13 minutes of operation. Redundancy in power systems in Applicant's IPTV super headend is designed to run uninterrupted even in the unlikely event of a total power outage. All satellite receivers, encoders, and servers are fed with conditioned UPS (Uninterruptible Power Supply) power that will run if utility power fails. In the event of an extended power outage, an on-site Cummins 300KW 300DQDAC diesel, 300kw standby duty rating e/w with Aluminum sound attenuated enclosure will provide back up power. A 500 gallon double wall sub base tank with mechanical fuel gauge, leak detection float switch, low fuel and fuel leak alarm contacts, analog meter, 3P600A circuit breaker, PMG excitation alternator, isochronous electronic governor comprises setup. Generator will power the full site including environmental systems. Generator run time is approximately 22 hours at full load. Generators are periodically tested to ensure functionality in the event of an emergency.

HVAC (Heating Ventilation Air Conditioning) systems are N+1 redundant to ensure that - even in the event of an entire HVAC system failure - there is a duplicate system on standby to take over. All air is circulated and filtered every 90 seconds to remove dust and contaminants. A Halon fire-suppression system is in place to prevent any fire from spreading - in the unlikely event that one could start, HVAC and lighting will be powered during standby conditions.

(B) Estimate system energy usage in KWH and estimate peak and fluctuations in energy consumption.

A: Estimated power consumption based on 90% useage @ 80kw for one year is 622,080 kwh.

G.6. <u>Design of Central Facilities</u>

With regard to each office, studio and any other building utilized or to be constructed, provide the following information:

1. **Location.**
2. **Plot plans for typical site designs including structures, parking requirements and landscaping, and description of external appearance of structures.**
3. **Number of employees, visitors and operating hours.**

A: See confidential Exhibit G.6.

G.7. Use of Radio Services

(A) Describe Microwave Transmission Services, Common Carrier, Cable Television Relay Service (CARS), and Multipoint Distribution Service (MDS) radio services.

(B) Provide a summary of all FCC notifications, licenses, permits, or approval which you have or anticipate will be required. Possible items should include:

Cable Television system registration
Clearance for midband and superband channels
Microwave licenses
TVRO licenses
Mobile radio licenses
ITFS licenses
MDS licenses

Discuss the likelihood of obtaining each new item, if any, and the allowance for FCC processing time. Discuss alternative plans if FCC approval cannot be obtained or if present approval is for only a portion of the service required.

(C) Describe present or anticipated microwave emissions, including sources, magnitude at the source, and magnitude at various distances from source. Explain in as great detail as possible the current or expected consequences of microwave emissions (e.g., interference with other broadcasting/communication system, personal health hazards, etc.)

A: Applicant's IPTV-designed services will not incorporate Microwave Transmission Services, Common Carrier, Cable Television Relay Service (CARS), and Multipoint Distribution Service (MDS) radio services.

G.8 Programming of Automated Channels

(A) Describe the equipment used for programming any automated channels, including make and model numbers.

A: Applicant will employ C-COR's n5 Video On Demand (VOD) storage system for programming automated channels. The n5 VOD server is C-COR's 5th generation server based on Hypercube design, a technology which allows interconnected computers to work as a homogenous system. The n5 building block is a 5 RU machine called a MediHub which contains all components required to operate as an independent video server, including an Intel CPU, D-RAM, hard discs, and IO cards. The n5 uses a UNIX operating system which is optimized for real time processing and large scale video processing and is extremely resilient to viruses that plague more widely used operating systems. The n5 includes the following features:

- High stream scalability
- Hot swappable modules
- Zero-latency for ingest
- Low power consumption
- Architected for ingest
- Open platform architecture
- Fault tolerant system architecture
- Decoupled storage and streaming

(B) Describe any other non-interactive, non-entertainment services you offer to provide and list all equipment used therefore, including make and model numbers.

A: Applicant's non-interactive, non-entertainment services are to be determined.

G.9. Emergency Alert System

Describe your existing and/or proposed Emergency Alert System including make and model number of equipment. Indicate whether system will override all audio and video channels or only audio channels. Also indicate how the system will be activated and from where.

A: Applicant's Emergency Alert System (EAS) will incorporate a SAGE model "ENDEC" DSP based EAS decoder. Applicant will monitor a minimum of two (2) FCC assigned sources for EAS messages. The EAS system is established by the middleware operating system incorporating EAS SAGE receivers. When the middleware EAS server receives an EAS alert from the SAGE EAS decoder it notifies the middleware clients and causes a force-tune of the clients to the appropriate alert channel. Once the alert is over the middleware clients return to their original state.

G.10. Subscriber Converter Availability

Please explain your present and future policies concerning availability of converters for subscribers.

A: Subscriber converters will be provided at the time of installation. Replacements, exchanges, and returns can be accommodated at any of the Hawaiian Telcom retail stores or via advance replacement shipping or in-home service call.

G.11. Design of Subscriber Converter

List the types of converters (by make and model number) that will be provided and under what circumstances.

Indicate whether converters demodulate and remodulate video or aural signals, and how the visual and aural depth of modulation will be checked and maintained if remodulation does occur.

A: Applicant's video service initially will deploy with Scientific Atlanta's MPEG4 set top boxes in two variations illustrated below:

- Model SA INP330HD unit for Standard Definition/ HD - single/multiple TV application
- Model SA IPN430MC unit for Standard Definition/ HD plus Digital Video Recorder- single/multiple TV application

These set top units do not remodulate video or aural signals.

G.12. Closed Captioning Devices

In regard to closed captioning or other services for the hearing impaired, what, if any, services have been and will be made available? If any such provisions are made, please indicate type and availability of equipment to be utilized.

A: Applicant will have provisions to support closed captioning services for the hearing impaired. The following is a description of operations and devices to accommodate this service as it relates to Applicant's video service.

For NTSC (Analog) and SDI (Digital – SMPTE 259M) Standard Definition (SD) signals, captions are typically encoded on line 21 of the Vertical Blanking Interval (VBI). The captioning standard is defined by EIA-608-B.

For HD-SDI (Digital – SMPTE 292M) High Definition (HD) signals, captions are typically transported in the vertical ancillary data (VANC) portion of the High Definition serial digital stream (SMPTE 292M) using the SMPTE 334M protocol. The captioning standard is defined by EIA-708-B. The SMPTE 334M protocol also supports carriage EIA-608-B captioning data along with the EIA-708-B captioning data. The EIA-608-B captioning data is typically used when the HD signal is down-converted to SD and sent to analog televisions and monitors.

The Scientific-Atlanta model D9034 H.264 SD encoder accepts EIA-608-B captioning data on VBI line 21 from an NTSC or SDI program source, and formats the data in the H.264 video stream according to EIA-708-B. In an upcoming software release scheduled for later this year, the D9034 will also be capable of accepting EIA-608-B and/or EIA-708-B captioning data embedded in the VANC using the SMPTE 334M protocol.

The Scientific-Atlanta model D9054 H.264 HD encoder accepts EIA-608-B and/or EIA-708-B captioning data embedded in the HD-SDI VANC using the SMPTE 334M protocol, and formats the data in the H.264 video stream according to EIA-708-B.

G.13. Service Level Isolation

(A) Pay Cable Isolation

Describe design specifications for the delivery of pay cable television, including methods of security (e.g., negative-option or positive-option traps, sync suppression, addressable converters, etc.)

(B) Tier Isolation

If more than one basic service tier is to be provided, describe how lower tier subscribers will be isolated from receiving upper tier programming.

A: Applicant's IPTV middleware services will provide gateway for authorized use of Video on Demand services. To ensure that customers can only access the tiers of services that they are allowed, each subscriber will be assigned a service profile based on the programming package he or she purchases. This profile will allow or disallow access to the various levels of programming.

(C) Scrambling System

While no proprietary data is required, state for each scrambling system used whether demodulation and remodulation must occur at headends, hubs, or subscriber equipment, and provide a brief analysis of the source of any interference or distortion anticipated due to this process.

A: The scrambling system that Applicant will use will comprise of an encryption key that will be applied to the programming line-up at the headend facility. The other end of the key will be located in the subscriber equipment provided by Applicant. Applicant does not anticipate any interference or distortion due to this process.

G.14. Home Alarm Service

(A) Equipment

If home alarm services are proposed for the future, describe the service, including make and model number of equipment. Indicate the physical location of alarm control centers, whether all dispatching originates from a single control center and any system redundancy or back-up provisions included.

A: Applicant currently does not have specific plans or timetables to offer home alarm services over its video network.

(B) Availability

Will this service be immediately available? If not, when and on what basis will such service be made available?

A: See response to question G.14(A) above.

(C) Personnel

Will a separate staff be provided to operate the alarm service or will cable service personnel be shared among the operating divisions? Will contract employees be used? Explain.

A: Not applicable. See response to question G.14(A) above.

G.15. Interactive Capability

(A) Describe all interactive capabilities to be included in the system and the scope of all services proposed. When will they be available, and to whom will they be available? What use levels are projected in terms of the number of subscribers and service response times, i.e., system response time in seconds at various simultaneous usage levels. Will services be offered by franchisee, or by others, or by both? If by others, what will be the criteria for deciding to whom access is provided, and what are the proposed terms of any agreements relating thereto (e.g., leased access contracts)?

A: Applicant's video service will provide the following interactive capabilities:

- Digital TV (DTV)
- Pay-Per-View (PPV)
- Video on Demand (VOD)
- Subscription VOD (SVOD)
- Free on Demand (FOD)
- Interactive Guides – Favorites, Reminders
- Digital Video Recorder
- Digital Music (with title, track, artist info)
- Parental Controls/Settings – Hide/Delete Channels

The above features will be incorporated in Applicant's IPTV platform. System response time will remain less that one second regardless of various simultaneous usage levels. All services and future products will be provided by Applicant.

(B) List by make and model number any headend electronics, computer equipment to subscriber terminal equipment, if any, that will be installed or offered for installation which will support services such as pay-per view, energy management, text display, polling or other sophisticated services. If

this equipment is not provided initially, state the year in which the equipment will be provided and for which funds are shown in Form E. Itemize any arrangements made or agreements reached that bear directly on the programming sources and/or data bases/software needed in connection with the optional services described in this section of the application.

A: Applicant's video service will incorporate Sun Fire V240 Servers, V240 servers with dual processors, Sun Fire V240, 2 x 1.5GHz UltraSPARC IIIi computers to support services such as pay-per view.

(C) **Indicate other cable system where each proposed service or equipment has been tested or operated. For each such system, indicate when the service was first placed in operation and the number of units now in service. If the service is not in use in at least three other system, discuss what steps will be taken to avoid start-up problems and to ensure the practicability of the proposed service or equipment.**

A. Applicant's video service is not based on traditional cable television technology and cannot be compared to traditional cable systems. There are a number of other telephone companies that have implemented IPTV-based offerings similar to that of Applicant's. Below is a partial list of comparable IPTV systems that are in operation.

Company	# of Subscribers	Service Launch
PCCW	500,000	2003
Manitoba TelecomServices	52,000	2003
Telefonica	200,000	2004
SureWest Communications	17,000	2004

(D) **For facilities intended to transmit data in any polling, frequency sharing, or timesharing arrangement, identify the transmission method as utilizing Carrier Sense Multiple Access/Collision Detection (CSMA/CD), bridger switching, or other such techniques. If both bridger-switched polling and CSMA/CD are proposed, address the potential cueing problems created by such an intermixture. Provide data to indicate system response times at various usage levels, i.e., maximum response time from an alarm activation to receipt of its notification at the control site.**

A: IPTV will be based on Internet Protocols. The core backbone of this network will be built around MPLS technology which includes capabilities for Class of Service, Quality of Service and Type of Service tagging. These advanced IP network technologies were designed to eliminate the cueing problems associated with earlier IP technologies.

G.16. Subscriber Network Channel Capacity

Provide the following information regarding the bandwidth and channel capacity of the Subscriber Network. If more than one cable is utilized or proposed, provide the required information for each cable, and provide totals.

(A) Downstream:

1. **Frequency Spectrum**
2. **Channel Capacity**
3. **Number of channels initially activated**

(B) Upstream:

1. **Frequency spectrum**
2. **Channel Capacity**
3. **Will the upstream capability be initially activated from all subscribers?**
4. **Will upstream be initially activated along any portion of the Subscriber Network?**
5. **If "yes," please explain. If "no," indicate when, under what circumstances and how future capacity will be provided.**

A: Applicant's IPTV platform is based on switched digital video technology and is not comparable to traditional cable service, which is RF-based and limited. Switched digital video (SDV)references the network architecture of Applicant's IP-based television distribution system in which only the selected channel(s) are distributed to the individual connected household. This enables Applicant to have no theoretical maximum channel count. Using IP multicast for the broadcast television streams will enable Applicant to increase its channel capacity as new future programming become available. The most common protocol used for switching channels in a SDV environment is IGMP (IP Group Membership Protocol).

(C) Discuss the extent to which bi-directional capability will be available initially, and what steps are proposed to provide additional capability as the state-of-the-art and public need develop.

A: Applicant's video network by its nature will be two-way. The two-way nature contributes many of the advantages IPTV has over traditional cable television service delivery models. It should be noted that the IPTV network elements combine to form an architecture known as switched digital video (SDV).

(D) Discuss any provisions made to circumvent unwanted signal ingress in the upstream path.

A: Unlike conventional cable service, Applicant's IPTV service is unaffected by unwanted signal ingress in the upstream path. Local signal ingress or interference from local broadcast stations is eliminated in IPTV.

(E) Discuss the extent to which the subscriber network will be compatible with High Definition Television (HDTV) and the effect of such compatibility on the channel capacity of the system.

A: Applicant's IP subscriber network will be compatible with High Definition Television (HDTV) and will have no effect on the compatibility or the channel capacity of the system. Applicant's IP-based television distribution system will deliver MPEG4, H.264 Standard definition and High Definition selected channel(s) to the individual connected household.

(F) Discuss any provision made to permit the transmission of encoded or scrambled video programming.

A: Applicant's IPTV platform will deliver full encrypted programming of all content to the individual subscriber access unit.

G.17. Institutional Network Channel Capacity

Provide the following information regarding the capacity of any Institutional Network.

(A) Downstream:
1. **Frequency Spectrum**
2. **Channel Capacity**
3. **Number of channels to be initially activated.**

(B) If full downstream capacity will not be initially a ctivated, indicate when, and under what circumstances and how additional downstream capacity will be provided to institutions.

(C) Upstream:
1. **Frequency Spectrum**
2. **Channel Capacity**
3. **Number of channels to be initially activated?**

(D) If full upstream capacity will not be initially activated, indicate when, under what circumstances, and how additional upstream capacity will be provided to institutions.

(E) Describe the extent to which institutional services will be carried on the Subscriber Network, where such carriage will be utilized to reach points not otherwise reached by the Institutional Network.

(F) Describe any centralized switching equipment and other equipment that will be provided at the headend to enable the institutional channel capacity to be utilized.

(G) Describe how use of the upstream/downstream channels of the network will be coordinated and managed.

A: See Exhibit G.17(A) attached hereto.

G.18. Institutions Served by Institutional Network

(A) List institutions proposed to be included in the institutional network, if such a network is proposed.

(B) Clearly indicate whether the institutions listed on the previous page will be initially connected or simply passed by cable. Also, discuss the provision of terminal equipment to institutions to support use of the proposed network.

(C) List specifically resources, including studios, equipment, staff assistance and funds which you propose to commit and make available to institutional network users. If there is any overlap between resources described here and in Form I, please explain.

(D) Describe anticipated uses of the institutional network. Also give details of any agreements with or commitments to any potential institutional network user(s). (Attach any such letters or agreements as appendix to this application.)

A: See Exhibit G.17(A) attached hereto.

G.19. Flexibility of Channel Capacity

Discuss channel capacity with regard both to the short-term and the long-term, including specific references to the degree of flexibility for adapting the existing and proposed system to increasing or changing capacity requirements.

A: See response to question G.16. Applicant's IPTV service platform is designed to accommodate additional channels for future growth in programming content.

G.20. Spectrum Utilization

Attach a spectrum utilization chart for each activated cable in the proposed system. For the subscriber cables, show the channel designations as listed in Form H and the frequency boundaries corresponding to each channel.

A: Applicant IPTV video service does not utilize RF spectrum bandwidth in the proposed system. IPTV is not traditional cable television service, communicating pictures and sound instead over an IP Network.

G.21. Audible Noise

Describe noise (including humming, buzzing, etc.) if any, from all system sources, including studios and headend (hub) stations, measured in decibels at (a) the noise source, (b) a 100-foot radius from the noise source, and (c) a 200-foot radius from the noise source.

A: Applicant's IPTV headend noise sources are limited to only external air conditioning compressors and stand-by power generation equipment.

- A/C Compressor noise in dB at source: 86dB.
- A/C Compressor noise in dB at 100 ft radius from compressor: 68.5 dB
- A/C Compressor noise in dB at 200 ft radius from compressor: 62.5 dB
- Generator noise in dB at source:71 dB @ 7mtr
- Generator noise in dB at 100 ft radius from compressor: 58.5 dB
- Generator noise in dB at 200 ft radius from compressor: 52.5 dB

G.22. Performance Tests

(A) Describe procedures for initial proof of performance tests and ongoing performance tests including number and general location of test points. Describe the test equipment to be used; method and frequency of test equipment calibration; and form and method of recording field data and permanent recordkeeping. A clear summary of the test procedures is desired, rather than lengthy test manuals.

A: See Exhibit G.22 attached hereto.

(B) Provide a list of all maintenance and test equipment proposed for the system. Distinguish between equipment permanently assigned to this system and that to be shared with other systems.

A: Test equipment listed below will be dedicated to the Applicant's SHE:

- MPEG stream analyzer with L-Band QPSK and ASI inputs
- MPEG stream analyzer with 8-VSB and ASI inputs
- Wohler - AMP2-E8MDA 8 Channel Dolby® E Audio Monitor & Converter with Discrete AES Outputs Equipt for - a) HD-SDI or SD-SDI with Embedded Dolby E or Dolby Digital - b) Dolby E or Dolby Digital - c) AES/EBU Audio - d) Analog Audio
- Tektronix - Multi-format, Multi-standard Waveform Monitor - Monitors SD and HD DigitalComponent Video
- Singulus G1-T IP Analyzer 10/100/1000 with built in tap

- Tektronix TG700 HD/SD Signal Generator
- Tektronix Waveform Rasterizer with ACS and Dolby E support
- Agilent Spectrum Analyzer, 9kHz to 3 GHz
- Ineoquest IQ Media Monitor
- Ineoquest Singulus G-1T

G.23. Statewide Interconnection

Describe what efforts may be undertaken to interconnect the Applicant's cable system with other cable system in the State. Include such information as:

a) Technical means of interconnection

b) Band width capacity of interconnect systems

c) Name and location of cable systems proposed to interconnect

d) Proposed activation dates of interconnect

e) Identification of total interconnect cost and how such cost will be shared among cable systems

f) Administrative coordination between cable systems, including any existing agreements to interconnect

g) Programming coordination between institutions, program suppliers, and access users

h) Other information as necessary

A: Applicant's video system will accept interconnect from public, educational or governmental (PEG) access cable networks via interconnection to Applicant's designated regional central offices (COs). Applicant will work with those cable systems to suggest inter-connection methods to provide video ingest to its regional COs.

a) Applicant's system will require those cable systems to deliver standard NTSC video feed to Applicant's designated CO where it would be converted to IP and transported via Applicant's Multi-Protocol Labeled Switching (MPLS) core network. Content will interconnect and be transported through Applicant's inter-island GigE fiber transport back to the Super Headend (SHE) for processing and re-distribution.

b) Bandwidth capacity on Applicant's NTSC video feed service is 45Mb.

c) Applicant proposes to allow interconnect to the following PEG cable broadcast facilities:

- `Olelo
- Na Leo `O Hawaii

- Akaku
- Ho`ike
- DOE Channels

d) Applicant's proposed activation schedule to interconnect cable systems will be determined by service activation schedule for regional areas.

e) Identification of total interconnect cost and how such cost will be shared between the systems shall be determined by video services tariff plus required transport equipment, installation, optimization and recurring maintenance costs.

f) Applicant will work to provide administrative coordination between systems, including any existing agreements to interconnect.

g) Applicant will require institutions and program suppliers to supply programming data to Applicant's electronic program guide (EPG) vendor.

G.24. System Maintenance

Describe procedures for routine preventive maintenance, include type and frequency of system inspection and testing, number and qualifications of technical staff, and the test equipment to be provided. A clear summary of the maintenance procedures is desired, rather than lengthy maintenance manuals.
While the discussion should cover all maintenance procedures, particular attention should be given to the following items:

Maintenance of critical central facilities equipment on which delivery of signals to the entire system is dependent.

Ongoing sweeping and maintenance of the entire distribution system on a rotating basis.

Methods for servicing and maintaining subscriber converters.

A: Hawaiian Telcom uses the Remedy system for managing network routine maintenance. This system is preprogrammed to store standard routine work and routine intervals for all network devices, systems, and elements. The Remedy system automatically issues routine maintenance work assignments at the specified internals and exact element locations to central office and head end technicians. These routine assignments are tracked in detail validating work completion and providing a historic view of routine maintenance for the network.

The routine maintenance associated with the overall video network includes preventive maintenance on both the video equipment and the supporting infrastructure. Routine maintenance for the video related equipment would be set to

the preferred method of either Applicant best practices or vendor specific requirements. General items to be part of the routine maintenance schedule are:

- The head end equipment and associated downlink facilities
- The MPLS edge and core routers
- Inter-node gigabit Ethernet links
- The DSL access nodes
  - central office based (CO)
  - remote terminal (RT)
  - sealed environmental modules (SEM)
- Middleware servers and software
- Element management systems and software
- Transport systems
  - SONET
  - DWDM
- DC power plant routines and preventive maintenance
- AC power plants – both commercial and emergency (generators)
- Fire prevention, alarm testing and safety routines
- Physical network security
- Network test equipment calibration

Hawaiian Telcom will be leveraging its experience, practices, and policies it uses for its existing network for repair and equipment care. Applicant already has maintenance practices in place for a number of items in the video network. Existing network elements that carry over to the video network include edge and core routers, DSL equipment, transport elements, element management system and application servers. Applicant will also integrate and update work practices to incorporate all new equipment types purchased and installed.

Hawaiian Telcom will staff dedicated technicians to maintain the head end location. The overall workforce of central office technicians that provide the daily care and maintenance of the video transport network will also be cross-trained on basic head end maintenance. The Network Operations Center (NOC) with its five-tier structure provides the maintenance technicians with 24/7 access to support personnel. These are highly-trained staff that will direct and support field repair. These support personnel will also have direct contact with each of the video network vendor's technical assistance centers (TAC) to ensure quick and final resolution of all network troubles.

G.25. Status Monitoring

If a status monitoring system is to be utilized, explain its operation. Explain how technical inspection by the State will be assisted.

A: Status monitoring of the video network will be performed by Hawaiian Telcom's NOC located in Honolulu, Hawaii. The center is a 24 hour per day, seven days per

week operation that monitors and manages all of Hawaiian Telcom's network infrastructure. The NOC manages all aspects of service assurance with a five-tier operating and support structure.

Hawaiian Telcom's NOC will manage and operate the end-to-end video network including elements such as the head end equipment, content sources (both satellite and facilities based sources), the edge and core Multi-Protocol Labeled Switching (MPLS) network fabric, the high-speed DSL access network, the associated network element management systems, and management of the selected middleware. The NOC will manage this network with a three-fold strategy, fault management, performance management (jitter, latency, packet loss, etc.), and testing and trouble analysis.

The core of this strategy is the NetCool software suite developed by Micromuse. This software includes fault management tools, performance and capacity management, and integration of other software tools under a single view of the network. The technicians that work in the NOC are highly skilled, trained, experienced, and certified. The software suite is designed to give the NOC staff the tools necessary to manage the network to a level that prevents and mitigates service problems.

The State will be able to visit Hawaiian Telcom's NOC and perform on-site inspections. Applicant can assist in these inspections by reviewing the video network topology and architecture as viewed through the NetCool monitoring system. Applicant can share the service level criteria in which we monitor and manage the network from a fault and performance management perspective. Data repositories in NetCool can provide supporting metrics that validate the quality standards of service provided by Applicant as well as dimensioning information to ensure the network is engineered for proper capacity and growth.

G.26. System Map

Attach a map indicating locations of headend, tower and antenna, hubs, studio, microwave facilities and earth station(s). Indicate the latitude and longitude of each of these facilities. Also show the routings for the major trunks.

A: See confidential Exhibit G.26 attached hereto.

G.27. Headend Block Diagram

Attach a headend block diagram showing all major components. Provide separate illustrations for master headend, slave headends, hubs, etc., as may be needed to describe the facilities to be provided.

A: See diagram in Section G.3.A above.

G.28. Contact for System Design Information

Please designate an individual by name, title, address, and telephone number who can provide additional or clarifying information regarding system design on behalf of Applicant.

A: Broadband Media Engineering, Inc.
1000 County Road 33, Como, CO 80432-0353
Russ Skinner - Principal
(303) 548--0481

G.29. Performance Values - Television and Audio Signals

Provide the performance values for each of the following parameters which the system will provide to subscribers and users of the system for the transmission of television and audio signals. Separate figures should be provided for the worst case transmission within the system: (i) as received at the input and (ii) at the output to the converter or other terminal device, including applicable temperature extremes. Provide the methodology and calculations showing how the values were derived.

(A) Carrier-to-Noise Ratio

(B) Video Signal-to-Noise Ratio

(C) Triple Beat Intermodulation

(D) Video Differential Gain

(E) Video Differential Phase

(F) Video Frequency Response

(G) Aural/Visual Crosstalk

(H) Audio Signal-to-Noise Ratio

(I) Audio Frequency Response

(J) Audio Total Distortion

A: Applicant's video services platform delivers video and audio utilizing IP packet network technology, which is fundamentally different from traditional RF-based cable television service. The requested performance values, methodology and performance calculations listed above are not applicable to IPTV-delivered services.

G.30 Performance Values - Data Signals

Provide the performance values for each of the following parameters which the system will provide to subscribers and users of the system for the transmission of data signals. Separate figures should be provided for the worst case transmission within the system: (i) as received at the input and (ii) at the output to the modem and system interface, including applicable temperature extremes. Provide the methodology and calculations showing how the values were derived.

(A) Carrier-to-Noise Ratio

(B) Bit Error Rate

(C) Phase Jitter

(D) System Delay

(E) Transmission Rate/Speed

A: Applicant's video services platform delivers video and audio utilizing IP packet network technology vs. traditional RF-based cable television/cable data services. Applicant will utilize performance values to set the IPTV parameters for best quality in accordance with the Media Delivery Index (MDI) measured by jitter, packet loss, and noise factors. The MDI can assure both the quality of the delivered video/audio stream as well as to show the system margin by providing an accurate measurement of jitter and delay. The MDI provides a repeatable measurement rather on subjective human observations. The methodology and calculations utilizing the MDI are as follows:

MDI Overview

The Media Delivery Index (MDI) is the only single targeted metric that captures the two classes of impairments, Packetized Data Loss and Temporal Distortion, that can occur within digital IP networks carrying video streams. Video IP network systems are sensitive to lost packets. Lost packets usually cause a user viewable impairment. Loss measurements are required to determine the dynamic performance of the transport system. Temporal Distortion, or cumulative packet jitter, is critical to monitor since it is a common precursor to faults that result in packet loss. Changing measures of jitter are often a presage for packet loss.

MDI provides an at-a-glance metric of the health of a delivered stream to facilitate automated monitoring and alarming of production systems that carry hundreds to thousands of simultaneous video streams. Since MDI is economical to compute, it is the best solution for continuously monitoring all video streams to detect any network induced faults in a timely way. Continuous monitoring of all streams is critical to detect faults before customers see impairments. Continuous monitoring of all streams is also important since transport network impairments such as queuing limitations can affect multiple streams in a random manner requiring simultaneous stream monitoring to quickly track down and correct faults. Continuously tracking and logging of cumulative jitter provides for proactive measurements of network behavior to make possible adjusting an evolving network before packet loss events occur and viewers are impacted. MDI is an open measurement adopted by various vendors and documented in an Internet Engineering Task Force draft RFC.

MDI Details

The MDI consists of two components: the Delay Factor (DF) and the Media Loss Rate (MLR).

Delay Factor

The Delay Factor is the maximum difference, observed at the end of each media stream packet, between the arrival of media data and the drain of media data, assuming the drain rate is the nominal constant traffic rate for constant bit rate streams. The DF is the maximum observed value of the flow rate imbalance over a calculation interval, usually one second, due to non-ideal stream source devices or due to transient congestion in network switches. The buffering required to accommodate the flow rate imbalance in bytes is expressed in terms of how long, in milliseconds, it would take to drain (or fill) this data at the nominal traffic rate to obtain the DF value.

The Delay Factor also indicates how long a data stream must be buffered (i.e., delayed) at its nominal bit rate to prevent packet loss. Another perspective of this time is as a measure of the network latency that must be induced from buffering that is required to accommodate stream jitter and prevent loss.

Media Loss Rate

The Media Loss Rate is the count of lost or out-of-order flow packets over a selected time interval, where the flow packets are packets carrying streaming application information. There may be zero or more streaming packets in a single IP packet. For example, it is common to carry seven 188 Byte MPEG Transport Stream packets in an IP packet. In such a case, a single IP packet loss would result in 7 lost packets counted for the case where the 7 lost packets did not include null packets. Including out-of-order packets is important as many stream consumer-type devices do not attempt to reorder packets that are received out of order.

Combining the Delay Factor and Media Loss Rate quantities for presentation results in the MDI:

DF:MLR

where "DF" is the Delay Factor and "MLR" is the Media Loss Rate

Any positive value of MLR is very likely to produce viewer visible picture impairments and should be addressed. Instrumentation automatically provides the ideal DF for a detected stream along with the actual measured DF for that stream. Generally, deviations beyond 2X the nominal DF should be addressed. More precisely, the specific network components selected should be characterized for their ability to accommodate streams with non-ideal DF values. Vendors of such

equipment can provide MDI Characteristic Curves to document how well their gear handles flows with cumulative jitter expressed in DF terms.

G.31 Community Viewing Centers

Describe any equipment and support that will be provided for community viewing centers (located for example in public libraries) and proposed location for such centers.

A: Applicant's video service will be available at community viewing centers that qualify for video service on Applicant's second-generation DSL network. No special equipment is required other than a standard IPTV DSL modem and subscriber converter/set top box provided by Applicant.

PROPOSED SIGNAL CARRIAGE AND CHANNEL ALLOCATIONS

H.1. Data on Video Services

Provide in tabular form, and in order of channel carriage, the data requested below on each video signal proposed for carriage. List all signals in the lowest tier of service first, followed by the additional signal in the next tier, etc., until all signals are listed.

A: See confidential Exhibit H.1 attached hereto.

H.2. Data on Audio Services

Provide in tabular form, and in order of channel carriage, the following data on all audio signals proposed. List all broadcast signals first, followed by non-broadcast audio programming.

A: See confidential Exhibit H.2 attached hereto.

H.3. Data on Other Services

For all other services for which spectrum space will be utilized on the Subscriber Network.

A: Applicant currently provides data and telephone services on Hawaiian Telcom's existing subscriber network.

H.4. Description of Video Services

For each video service proposed, provide a short narrative description. Identify each service by the cable channel and identifier used in the tabulation responding to question H.1. If the Applicant proposes to have shared channels, describe the daily time division and the proposed duration of such sharing.

A: No shared channels are proposed at this time.

H.5. Description of Audio Services

For each audio service proposed, provide a short narrative description. Signals of a common type, such as all off-air broadcast signals, may be grouped in a signal description. For individually described signals indicate the cable frequency and identifier used in the tabulation responding to question H.2.

A: See last bullet point in the response to question G.3.

H.6. Description of Other Services

For each other service proposed, provide a narrative description of the function, purpose, or use of the service. This should include all non-entertainment services proposed for either the Subscriber Network or the Institutional Network during the term of the franchise. Services should be identified by the code used in the tabulation responding to question H.3.

A: Applicant currently provides data services on the subscriber network, which is owned by Applicant's sister company, Hawaiian Telcom, Inc., and used by Hawaiian Telcom, Inc. to provide telephone services.

H.7. Summary of Video Services by Tier

For each tier of service proposed, provide a summary tabulation listing the cable channel number in the first column and listing in the second column a brief description of the designated allocation of the channel such as call letter, channel number, the off-air channel number, network, or general description.

A: See confidential Exhibit H.7 attached hereto.

H.8. Contracts for Program Services

For proposed signals other than local broadcast signals, attach copies of the contracts or other satisfactory evidence indicating that the Applicant will obtain the right to carriage of the programming service.

A: Applicant has engaged United Telesystems, Inc. as a program aggregator/consultant to obtain video content programming on behalf of Applicant

H.9. Carriage of Encoded Subscription Television Signals

State whether carriage will be provided for any broadcast station transmitting encoded subscription signals, and list any such stations.

A: There is no current plan for this type of carriage.

H.10. Carriage of Broadcast Teletext Signals

State whether carriage will include vertical blanking interval broadcast by television stations. Examples could include a Stereophonic subchannel, a Separate Audio Program (SAP) subchannel, or a Related Audio Program (RAP) subchannel.

A: There is no current plan for this type of carriage.

CUSTOMER SERVICE AND RATES

I.1. Describe in detail standards for customer service. Specifically address standards and procedures for installations, billing, handling of complaints, repairs, discontinuing or changing service, telephone and other services.

A: Hawaiian Telcom already has established customer service groups and established customer service standards with respect to its existing DSL business. Applicant will leverage Hawaiian Telcom's current customer support organizational structure to support the video initiative in all areas of customer service. Many of the skills, processes and procedures of the video business are extensions of Hawaiian Telcom's current DSL business.

Hawaiian Telcom's existing customer support structure will support video customer calls in Sales, Billing, Customer Relations and Repair. Each group has detailed standards of procedures for their respective area of responsibility.

Each group records a percentage of calls, which are monitored for quality assurance purposes. Each group will manage its contacts for installation, billing, complaint management, repairs, and changes/discontinuation of service.

Applicant's repair system will track trouble reports to identify trends for process improvement initiatives, especially critical with any new product roll out. The embedded systems and processes will assist in ensuring continuous improvements are realized throughout the development of the product.

I.2. Provide a summary for the last ten years of all rates charged for your basic tier of service.

A: Not applicable. Applicant has not previously provided video service.

I.3. List the proposed rates to be charged including rates for each service tier as appropriate and charges for installation, cancellations, and other services.

A: See confidential Exhibit I.3.

I.4. Estimate the annual churn rate for the system and indicate any expected effect it will have on service policy.

A: See confidential Exhibit I.4.

EXHIBIT 1

Attached hereto are the Supplemental Consolidating Statement of Operations, Balance Sheet, and Statement of Cash Flows as of December 31, 2005 of Hawaiian Telcom Communications, Inc. ("HTC"), the parent of Applicant, demonstrating the financial condition, responsibility and resources of Applicant. Also attached hereto are the audited consolidated financial statements of HTC as of December 31, 2005. The unaudited financial statements for the first quarter of 2006 have not been finalized.

Independent Auditors' Report

Stockholder and Board of Directors
Hawaiian Telcom Communications, Inc.:

We have audited the accompanying consolidated balance sheets of Hawaiian Telcom Communications, Inc. and subsidiaries (the "Company") as of December 31, 2005 and 2004, and the related consolidated statements of operations, changes in stockholder's equity (deficiency), and cash flows for the year ended December 31, 2005 and for the period from May 21, 2004 (date of inception) to December 31, 2004. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits. The special-purpose combined statements of selected assets, selected liabilities, and parent funding (titled consolidated balance sheets in the accompanying financial statements) of Verizon Communications Inc.'s Hawaii Business, a combination of Verizon Hawaii Inc. and carved-out components of Verizon Information Services, GTE.Net LLC, Bell Atlantic Communications Inc., and Verizon Select Services Inc. (collectively the "Predecessor") as of December 31, 2004, and the related combined statements of income (consolidated statements of operations), parent funding (combined statements of changes in parent funding— predecessor), and cash flows (consolidated statements of cash flows) for the period from January 1, 2005 to May 1, 2005 and for the years ended December 31, 2004 and 2003, were audited by other auditors whose report, dated July 26, 2005, expressed an unqualified opinion on those statements and included an explanatory paragraph that described the purpose of the combined statements discussed in Notes 2 and 3 to the consolidated financial statements.

We conducted our audits in accordance with generally accepted auditing standards as established by the Auditing Standards Board (United States) and in accordance with the auditing standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of the internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of Hawaiian Telcom Communications, Inc. and subsidiaries at December 31, 2005 and 2004, and the results of their operations and their cash flows for the year ended December 31, 2005 and for the period from May 21, 2004 (date of inception) to December 31, 2004, in conformity with accounting principles generally accepted in the United States of America.

Our audits were conducted for the purpose of forming an opinion on the basic consolidated financial statements taken as a whole. The supplemental schedules as of and for the year ended December 31, 2005 are presented for the purpose of additional analysis and are not a required part of the basic consolidated financial statements. These supplemental schedules are the responsibility of the Company's management. Such supplemental schedules have been subjected to the auditing procedures applied in our audits of the basic consolidated financial statements and, in our opinion, are fairly stated in all material respects when considered in relation to the consolidated financial statements taken as a whole.

Honolulu, Hawaii
March 29, 2006

Hawaiian Telcom Communications, Inc.

Supplemental Consolidating Statement of Operations
For the Year Ended December 31, 2005
(Dollars in thousands)

	Hawaiian Telcom, Inc. Consolidated	Hawaiian Telcom Services Company, Inc.	Hawaiian Telcom Communi-cations, Inc.	Elimination Entries (1)	Hawaiian Telcom Communi-cations, Inc. Consolidated
Operating revenues	$ 296,408	$ 76,573	$ -	$ (35,564)	$ 337,417
Operating expenses:					
Cost of services and sales (exclusive of depreciation and amortization)	108,776	77,112	-	(35,564)	150,324
Selling, general and administrative	100,865	45,249	26,498	-	172,612
Depreciation and amortization	94,871	12,882	-	-	107,753
Total operating expenses	304,512	135,243	26,498	(35,564)	430,689
Operating loss	(8,104)	(58,670)	(26,498)	-	(93,272)
Other income (expense):					
Interest expense	(13,886)	1,510	(66,832)	-	(79,208)
Other income and expense, net	1,004	(129)	-	-	875
Total other income (expense)	(12,882)	1,381	(66,832)	-	(78,333)
Loss before provision for income taxes	(20,986)	(57,289)	(93,330)	-	(171,605)
Provision for income taxes	-	-	4,100	-	4,100
Net loss	$ (20,986)	$ (57,289)	$ (97,430)	$ -	$ (175,705)

(1) Relates to elimination of intercompany revenue.

Hawaiian Telcom Communications, Inc.

Supplemental Consolidating Balance Sheet
December 31, 2005
(Dollars in thousands)

	Hawaiian Telcom, Inc. Consolidated	Hawaiian Telcom Services Company, Inc.	Hawaiian Telcom Communi-cations, Inc.	Elimination Entries (1)	Hawaiian Telcom Communi-cations, Inc. Consolidated
Assets					
Current assets					
Cash and cash equivalents	$ 14,954	$ (4,736)	$ 103	$ -	$ 10,321
Receivables, external customers	60,819	17,801	14	306	78,940
Intercompany receivables	183,257	205,450	52,093	(440,800)	-
Material and supplies	2,848	2,863	-	-	5,711
Prepaid expenses	3,027	3,021	-	(1,684)	4,364
Other current assets	1,888	4,458	-	-	6,346
Total current assets	266,793	228,857	52,210	(442,178)	105,682
Property, plant and equipment, net	755,788	61,545	-	-	817,333
Investment in subsidiary	-	-	1,316,870	(1,316,870)	-
Deferred financing and other assets	10,837	412	40,818	-	52,067
Intangible assets, net	526,680	120,519	-	-	647,199
Goodwill	-	134,273	-	-	134,273
Total assets	$ 1,560,098	$ 545,606	$ 1,409,898	$ (1,759,048)	$ 1,756,554
Liabilities and Stockholder's Equity					
Current liabilities					
Accounts payable	$ 13,738	$ 36,014	$ 635	$ -	$ 50,387
Intercompany payables	166,631	249,239	24,624	(440,494)	-
Accrued expenses	22,024	1,080	9,468	-	32,572
Advance billings and customer deposits	16,579	1,111	-	(1,684)	16,006
Current maturities of long-term debt	-	-	3,000	-	3,000
Other current liabilities	2,335	6,971	-	-	9,306
Total current liabilities	221,307	294,415	37,727	(442,178)	111,271
Long-term debt	300,000	-	1,043,500	-	1,343,500
Deferred income taxes	-	-	4,100	-	4,100
Employee benefit obligations	44,170	(16)	(13)	-	44,141
Other liabilities	7,364	(19)	-	-	7,345
Total liabilities	572,841	294,380	1,085,314	(442,178)	1,510,357
Stockholder's equity					
Common stock	250,000	-	-	(250,000)	-
Additional paid-in capital	758,355	308,515	428,000	(1,066,870)	428,000
Accumulated other comprehensive income	(112)	-	11,387	-	11,275
Accumulated deficit	(20,986)	(57,289)	(114,803)	-	(193,078)
Total stockholder's equity	987,257	251,226	324,584	(1,316,870)	246,197
Total liabilities and stockholder's equity	$ 1,560,098	$ 545,606	$ 1,409,898	$ (1,759,048)	$ 1,756,554

(1) Elimination of intercompany receivables/payables, advance billings and investment in subsidiaries.

Hawaiian Telcom Communications, Inc.

Supplemental Consolidating Statement of Cash Flows
For the Year Ended December 31, 2005
(Dollars in thousands)

	Hawaiian Telcom, Inc. Consolidated	Hawaiian Telcom Services Company, Inc.	Hawaiian Telcom Communi-cations, Inc.	Elimination Entries (1)	Hawaiian Telcom Communi-cations, Inc. Consolidated
Cash flows from operating activities:					
Net loss	$ (20,986)	$ (57,289)	$ (97,430)	$ -	$ (175,705)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities					
Depreciation and amortization	94,872	12,881	-	-	107,753
Deferred income taxes, net	-	-	4,100	-	4,100
Employee retirement benefits	10,101	(16)	(13)	-	10,072
Changes in operating assets and liabilities:					
Receivables	3,320	30,575	(14)	(10,584)	23,297
Material and supplies	286	(10)	-	-	276
Other current assets	(4,635)	(5,903)	-	1,684	(8,854)
Accounts payable and accrued expenses	5,139	27,694	1,676	8,594	43,103
Other current liabilities	(3,024)	5,572	(15,680)	-	(13,132)
Other, net	(4,267)	(430)	8,406	-	3,709
Net cash provided by (used in) operating activities	80,806	13,074	(98,955)	(306)	(5,381)
Cash flows from investing activities:					
Capital expenditures	(52,096)	(61,546)	962	-	(112,680)
Proceeds on sale of investments	15,000	-	-	-	15,000
Purchase of Verizon's Hawaii Business, net of cash acquired	2,818	-	(1,326,173)	-	(1,323,355)
Net cash used in investing activities	(34,278)	(61,546)	(1,325,211)	-	(1,421,035)
Cash flows from financing activities:					
Issuance of common stock	-	-	428,000	-	428,000
Proceeds from issuance of debt	-	-	1,068,300	-	1,068,300
Repayment of debt	-	-	(21,800)	-	(21,800)
Intercompany advance and dividend activity	(31,574)	43,736	(12,468)	306	-
Payment of debt issue costs	-	-	(37,763)	-	(37,763)
Net cash provided by (used in) financing activities	(31,574)	43,736	1,424,269	306	1,436,737
Net change in cash and cash equivalents	14,954	(4,736)	103	-	10,321
Cash and cash equivalents, beginning of period	-	-	-	-	-
Cash and cash equivalents, end of period	$ 14,954	$ (4,736)	$ 103	$ -	$ 10,321

(1) Elimination of intercompany receivables/payables and advance billings.

EXHIBIT D.1

CONFIDENTIAL, PROPRIETARY AND/OR COMPETITIVELY-SENSITIVE INFORMATION HAS BEEN DELETED AND FILED WITH THE DIRECTOR OF COMMERCE AND CONSUMER AFFAIRS UNDER SEPARATE ENVELOPE UNDER AND SUBJECT TO LETTER DATED MAY 5, 2006.
THE INFORMATION CONTAINED IN SAID ENVELOPE SHALL NOT BE DISCLOSED, PROVIDED OR OTHERWISE DISSEMINATED TO THIRD PARTIES OUTSIDE THE CABLE TELEVISION DIVISION, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, WITHOUT THE PRIOR WRITTEN CONSENT OF HAWAIIAN TELCOM SERVICES COMPANY, INC.

EXHIBIT D.2

CONFIDENTIAL, PROPRIETARY AND/OR COMPETITIVELY-SENSITIVE INFORMATION HAS BEEN DELETED AND FILED WITH THE DIRECTOR OF COMMERCE AND CONSUMER AFFAIRS UNDER SEPARATE ENVELOPE UNDER AND SUBJECT TO LETTER DATED MAY 5, 2006.
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EXHIBIT D.4

CONFIDENTIAL, PROPRIETARY AND/OR COMPETITIVELY-SENSITIVE INFORMATION HAS BEEN DELETED AND FILED WITH THE DIRECTOR OF COMMERCE AND CONSUMER AFFAIRS UNDER SEPARATE ENVELOPE UNDER AND SUBJECT TO LETTER DATED MAY 5, 2006.
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EXHIBIT E.1

CONFIDENTIAL, PROPRIETARY AND/OR COMPETITIVELY-SENSITIVE INFORMATION HAS BEEN DELETED AND FILED WITH THE DIRECTOR OF COMMERCE AND CONSUMER AFFAIRS UNDER SEPARATE ENVELOPE UNDER AND SUBJECT TO LETTER DATED MAY 5, 2006.
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EXHIBIT E.2

CONFIDENTIAL, PROPRIETARY AND/OR COMPETITIVELY-SENSITIVE INFORMATION HAS BEEN DELETED AND FILED WITH THE DIRECTOR OF COMMERCE AND CONSUMER AFFAIRS UNDER SEPARATE ENVELOPE UNDER AND SUBJECT TO LETTER DATED MAY 5, 2006.
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EXHIBIT E.3

CONFIDENTIAL, PROPRIETARY AND/OR COMPETITIVELY-SENSITIVE INFORMATION HAS BEEN DELETED AND FILED WITH THE DIRECTOR OF COMMERCE AND CONSUMER AFFAIRS UNDER SEPARATE ENVELOPE UNDER AND SUBJECT TO LETTER DATED MAY 5, 2006.
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EXHIBIT E.4

CONFIDENTIAL, PROPRIETARY AND/OR COMPETITIVELY-SENSITIVE INFORMATION HAS BEEN DELETED AND FILED WITH THE DIRECTOR OF COMMERCE AND CONSUMER AFFAIRS UNDER SEPARATE ENVELOPE UNDER AND SUBJECT TO LETTER DATED MAY 5, 2006.
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EXHIBIT E.6

CONFIDENTIAL, PROPRIETARY AND/OR COMPETITIVELY-SENSITIVE INFORMATION HAS BEEN DELETED AND FILED WITH THE DIRECTOR OF COMMERCE AND CONSUMER AFFAIRS UNDER SEPARATE ENVELOPE UNDER AND SUBJECT TO LETTER DATED MAY 5, 2006.
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EXHIBIT E.7

CONFIDENTIAL, PROPRIETARY AND/OR COMPETITIVELY-SENSITIVE INFORMATION HAS BEEN DELETED AND FILED WITH THE DIRECTOR OF COMMERCE AND CONSUMER AFFAIRS UNDER SEPARATE ENVELOPE UNDER AND SUBJECT TO LETTER DATED MAY 5, 2006.
THE INFORMATION CONTAINED IN SAID ENVELOPE SHALL NOT BE DISCLOSED, PROVIDED OR OTHERWISE DISSEMINATED TO THIRD PARTIES OUTSIDE THE CABLE TELEVISION DIVISION, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, WITHOUT THE PRIOR WRITTEN CONSENT OF HAWAIIAN TELCOM SERVICES COMPANY, INC.

EXHIBIT E.8

Future Subscriber Network Construction Costs

The network is owned by Hawaiian Telcom, Inc., Applicant's sister company. As a result, future construction relating to the network would be undertaken by Hawaiian Telcom, Inc. rather than by Applicant. To ensure Applicant's competitive activities are not being unfairly subsidized by Hawaiian Telcom, Inc.'s regulated activities and vice versa, construction costs will be properly allocated to Applicant in accordance with the Cost Allocation Manual (CAM) requirements as outlined in 47 CFR §64, Subpart I. The CAM represents the process required by the Federal Communications Commission (FCC) to ensure proper accounting for costs. In addition, Hawaiian Telcom is required to use Part 32 accounting, the FCC's standard accounting that helps to ensure there is no cross subsidization.

EXHIBIT E.10

CONFIDENTIAL, PROPRIETARY AND/OR COMPETITIVELY-SENSITIVE INFORMATION HAS BEEN DELETED AND FILED WITH THE DIRECTOR OF COMMERCE AND CONSUMER AFFAIRS UNDER SEPARATE ENVELOPE UNDER AND SUBJECT TO LETTER DATED MAY 5, 2006.
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EXHIBIT F.8(A)

CONFIDENTIAL, PROPRIETARY AND/OR COMPETITIVELY-SENSITIVE INFORMATION HAS BEEN DELETED AND FILED WITH THE DIRECTOR OF COMMERCE AND CONSUMER AFFAIRS UNDER SEPARATE ENVELOPE UNDER AND SUBJECT TO LETTER DATED MAY 5, 2006.
THE INFORMATION CONTAINED IN SAID ENVELOPE SHALL NOT BE DISCLOSED, PROVIDED OR OTHERWISE DISSEMINATED TO THIRD PARTIES OUTSIDE THE CABLE TELEVISION DIVISION, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, WITHOUT THE PRIOR WRITTEN CONSENT OF HAWAIIAN TELCOM SERVICES COMPANY, INC.

EXHIBIT G.2

Alcatel 7750 Service Router

The Alcatel 7750 Service Router (SR) is the industry's first service router designed and optimized for the delivery of high-performance carrier data, voice and video services.

Carrier-Class Reliability

The Alcatel 7750 Service Router portfolio benefits from Alcatel's recognized experience in delivering carrier-grade telephony, wireless, optical and data solutions.
The Alcatel 7750 SR portfolio was designed to exceed the stringent reliability demands of service providers, with a hardware and software architecture created for maximum uptime.

Hardware Implementation

The Alcatel 7750 SR is a fully redundant platform with no single-point of failure:
> 1:1 redundancy on all common system elements:
• power supplies, cooling etc. (SR-7 and SR-12)
> 1:1 control plane module redundancy with high-availability routing support (SR-7 and SR-12)
> 1:1 switch fabric module redundancy (SR-7 and SR-12):
• 100% bandwidth available in unlikely case of switch fabric failure
• 1:16 switch fabric component redundancy for graceful degradation
> In-service insertion and removal of system components and physical interfaces

Technical Summary

SR-12

Bandwidth

> 400 Gb/s (full duplex, redundant) fabric/system capacity
> 20 Gb/s I/O slots, scaling to 40 Gb/s (full duplex)

I/O Slots/MDAs

> 10/20

Redundancy

Fully redundant platforms with no single-point of failure
> 1:1 redundancy on all common system elements:
• power supplies, cooling, SONET clock generator, etc.
> 1:1 Control Plane Module redundancy
• enables high-availability routing
> 1:1 switch fabric module redundancy
• 100% available internal bandwidth in case of unlikely switch fabric failure
• 1:16 switch fabric component redundancy for graceful degradation
> In-service insertion and removal of system components and physical interfaces

Physical Dimensions

> Height: 62.2 cm (24.5 in.)
> Width: 44.4 cm (17.5 in.)
> Depth: 64.5 cm (25.4 in.)
> Fits in 1/3 of a rack

Power

> 220 V AC (requires external shelf)
> -48 V DC/-60 V DC
> 1+1 redundancy

Cooling

> Front-to-back airflow

Software Specifications

Protocol support

> Routing: BGP4, IS-IS, OSPF, RIPv1 and 2
> Equal cost multipath orotocol (ECMP) routing (up to 16 paths)
> MPLS: LSR and LER, RSVP-TE, LDP, Fast Reroute (FRR) with sub 50ms failover
> Extensive route policy support
> Line rate Layer 2 and Layer 3 ACL filtering at 10 Gb/s

Services

> Direct Internet access
> Virtual leased line (VLL) point-to-point Layer 2 VPNs
> Virtual private LAN service (VPLS) multipoint Layer 2 VPNs
> IP-VPNs (RFC 2547bis)
> Draft Martini encapsulation
> GRE encapsulation

Quality of service

> Per-service queuing, shaping and policing with more than 16,000 queues per interface slot
> Hierarchical queuing and scheduling
> Ingress and egress buffering (up to 200 ms at 10 Gb/s)
> CIR, PIR, MBS queue parameters
> Premium, assured and best effort forwarding classes
> IEEE 802.1p Filtering/Marking/Re-marking
> IETF DSCP Filtering/Marking/Re-marking
> WRED on ingress and egress

Management

> Fully featured industry CLI, including service CLI

> Port and service mirroring
> Service Assurance tools including: service ping, SDP ping, LSP ping, MAC ping, MAC traceroute, VPN ping, VPN traceroute
> SSH and Telnet
> FTP, TFTP and SCP
> RADIUS (AAA)
> TACACS+
> SNMP v1, v2c and v3

Certification

Safety

> C-UL from Underwriters Laboratories
> CAN/CSA.C22.2 No. 60950-00-03
> UL 60950 Third Edition (2000)
> CB Certificate from TUV
> IEC 60950 Third Edition (1999)

EMI

> FCC Part 15, Class A, subpart B
> VCCI Class A
> ICES Class A
> AS/NZS A Class A
> EN 55022 Class A

EMC (Immunity)

> ESD: EN 61000-4-2
> RF Immunity: EN 61000-4-3
> EFT/Burst Test: EN 61000-4-4
> Surge: EN 61000-4-5
> Conducted Immunity: EN 61000-4-6
> Magnetic Field Immunity: EN 61000-4-8
> Voltage Dips/Interrupts: EN 61000-4-11
> Harmonics (AC): EN 61000-3-2
> Flickers (AC): EN 61000-3-3
> Immunity Europe: EN 55024 ITE
> Immunity Europe: EN 300 386 V1.3.1:2001 (Certification under way for SR-1)

NEBS

> Environmental: Telcordia GR-63-CORE (NEBS Requirements: Physical Protection) (Certification under way for SR-7 and SR-1)
> EMC/Telecom: Telcordia GR-1089-CORE (Electromagnetic Compatibility and Electrical Safety - Generic Criteria for Network Telecommunications Equipment) (Certification under way for SR-1)
> ETSI 300 019: Environmental Conditions and Environmental Tests for Telecommunications Equipment (Certification under way for SR-7 and SR-1)

Marking

> CE Mark

Operating Environment

> Operating temperature: 0 C to 40 C (32 F to 104 F)
> Relative humidity: 15 to 90% (non-condensing)
> Operating altitude: sea level to 3,048 m (10,000 ft)

Standards Compliance

> IEEE 802.1d Bridging
> IEEE 802.1p/q VLAN Tagging
> IEEE 802.3 10Base-T
> IEEE 802.3u 100Base-TX
> IEEE 802.3x Flow Control
> IEEE 802.3z 1000Base-SX/LX
> IEEE 802.3ad Link Aggregation
> IEEE 802.3ae 10 Gb/s Ethernet

Protocol Support

TCP/IP

> RFC 768 User Datagram Protocol
> RFC 791 Internet Protocol
> RFC 792 Internet Control Message Protocol
> RFC 793 Transmission Control Protocol
> RFC 826 Ethernet Address Resolution Protocol
> RFC 854 Telnet Protocol Specification
> RFC 951 Bootstrap Protocol
> RFC 1350 The TFTP Protocol
> RFC 1519 Classless Inter-Domain Routing (CIDR)
> RFC 1542 Clarifications and Extensions to the Bootstrap Protocol
> RFC 1812 Requirements for IPv4 Routers
> RFC 2787 Definitions of Managed Objects for VRRP
> RFC 3768 Virtual Router Redundancy Protocol (VRRP)

RIP

> RFC 1058 Routing Information Protocol
> RFC 2082 RIP-2 MD5 Authentication
> RFC 2453 RIP Version 2

OSPF

> RFC 1765 OSPF Database Overflow
> RFC 2328 OSPF Version 2
> RFC 2370 The OSPF Opaque LSA Option
> RFC 3101 The OSPF Not-So-Stubby Area (NSSA) Option

BGP

> RFC 1265 BGP Protocol Analysis
> RFC 1266 Experience with the BGP Protocol
> RFC 1397 Default Route Advertisement in BGP2 and BGP3 Version of the Border Gateway Protocol
> RFC 1656 BGP-4 Protocol Document Roadmap and Implementation Experience
> RFC 1771 A Border Gateway Protocol 4 (BGP-4)
> RFC 1772 Application of the Border Gateway Protocol in the Internet
> RFC 1966 BGP Route Reflection: An Alternative to Full Mesh IBGP
> RFC 1997 BGP Communities Attribute
> RFC 2270 Using a Dedicated AS for Sites Homed to a Single Provider
> RFC 2385 Protection of BGP Sessions via the TCP MD5 Signature Option
> RFC 2439 BGP Route Flap Damping
> RFC 2547bis BGP/MPLS VPNs
> RFC 2796 BGP Route Reflection - An Alternative to Full Mesh IBGP
> RFC 2858 Multi Protocol Extensions for BGP-4
> RFC 2918 Route Refresh Capability for BGP-4
> RFC 3065 Autonomous System Confederations for BGP
> RFC 3392 Capabilities Advertisement with BGP-4

IS-IS

> RFC 1142 OSI IS-IS Intra-Domain Routing

Protocol
> RFC 1195 Use of OSI IS-IS for Routing in TCP/IP and Dual Environments
> RFC 2763 Dynamic Hostname Exchange Mechanism for IS-IS
> RFC 2966 Domain-Wide Prefix Distribution with Two-Level IS-IS
> RFC 2973 IS-IS Mesh Groups
> RFC 3373 Three-Way Handshake for Intermediate System to Intermediate System (IS-IS) Point-to-Point Adjacencies
> RFC 3567 Intermediate System to Intermediate System (IS-IS) Cryptographic Authentication
> ISO/IEC 10589:2002 Information technology -- Telecommunications and information exchange between systems -- Intermediate System to Intermediate System intra-domain routing information exchange protocol for use in conjunction with the protocol for providing the connectionlessmode network service

IGMP
> RFC 3376 - Internet Group Management Protocol, Version 3
> RFC 2236 - Internet Group Management Protocol, Version 2
> RFC 1112 - Host Extensions for IP Multicasting

PPP
> RFC 1332 The PPP Internet Protocol Control Protocol (IPCP)
> RFC 1377 The PPP OSI Network Layer Control Protocol (OSINLCP)
> RFC 1661 The Point-to-Point Protocol (PPP)
> RFC 1662 PPP in HDLC-like Framing
> RFC PPP Link Quality Monitoring
> RFC 2615 PPP over SONET/SDH
> RFC 3518 Point-to-Point Protocol (PPP) Bridging Control Protocol (BCP)

GRE
> RFC 1701 Generic Routing Encapsulation (GRE)
> RFC 1702 Generic Routing Encapsulation over IPv4 Networks
> RFC 2784 Generic Routing Encapsulation (GRE)

MPLS
> RFC 2702 Requirements for Traffic Engineering Over MPLS
> RFC 3031 Requirements for Traffic Engineering Over MPLS
> RFC 3032 MPLS Label Stack Encoding
> RFC 3036 LDP Specification
> RFC 3037 LDP Applicability
> RFC 2430 A Provider Architecture for Differentiated Services and Traffic Engineering (PASTE)
> RFC 2961 RSVP Refresh Overhead Reduction Extensions
> RFC 3175 Aggregation of RSVP for IPv4 and IPv6 Reservations
> RFC 3181 Signaled Pre-emption Priority Policy Element
> RFC 3209 RSVP-TE: Extensions to RSVP for LSP Tunnels
> RFC 3210 Applicability Statement for Extensions to RSVP for LSP-Tunnels

Differentiated Services
> RFC 2474 Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers
> RFC 2597 Assured Forwarding PHB Group
> RFC 3140 Per Hop Behavior Identification Codes
> RFC 3246 An Expedited Forwarding PHB (Per-Hop Behavior)

VPLS Services
> IETF draft-ietf-l2vpn-vpls-ldp-xx.txt (previously know as "lasserre-vkompella")
> IETF draft-stokes-vkompella-ppvpn-hvplsoam-xx.txt or "stokes-vkompella"
> IETF draft-augustyn-vpls-requirements-xx.txt

Other
> TACACS: IETF draft-grant-tacacs-02.txt
> SSH: IETF draft-ylonen-ssh-protocol-xx.txt

Ethernet Pseudowire
> IETF draft-ietf-pwe3-ethernet-encap-xx.txt
> IETF draft-ieft-pwe3-control-protocol-xx.txt
> IETF draft-so-pwe3-ethernet-xx.txt
> IETF draft-martini-l2circuit-trans-mpls-xx.txt
> IETF draft-martini-l2circuit-encap-mpls-xx.txt

RADIUS
> RFC 2865 Remote Authentication Dial In User Service (RADIUS)
> RFC 2866 RADIUS Accounting

SONET/SDH
> Telecordia GR-253-CORE (Synchronous Optical Network (SONET) Transport Systems: Common Generic Criteria)
> Automatic protection switching (APS)

Network Management
> ITU-T X.721 Information technology - OSI - Structure of management information: Definition of management information
> ITU-T X.734 Information technology - OSI - Systems Management: Event report management function
> ITU-T M.3100 Generic network information model
> ITU-T M.3120 CORBA generic network and network element level information model
> TMF 509/613 Network Connectivity Model
> RFC 1157 Simple Network Management Protocol (SNMP)
> RFC 1657 Definitions of Managed Objects for the Fourth Version of the Border Gateway Protocol (BGP-4) using SMIv2
> RFC 1724 RIP Version 2 MIB Extension
> RFC 1850 OSPF Version 2 Management Information Base
> RFC 2011 SNMPv2 Management Information Base for the Internet Protocol using SMIv2
> RFC 2012 SNMPv2 Management Information Base for the Transmission Control Protocol using SMIv2
> RFC 2013 SNMPv2 Management Information Base for the User Datagram Protocol using SMIv2
> RFC 2096 IP Forwarding Table MIB
> RFC 2206 RSVP Management Information

Base using SMIv2
> RFC 2819 Remote Network Monitoring Management Information Base
> RFC 2863 The Interfaces Group MIB
> RFC 2864 The Inverted Stack Table Extension to the Interfaces Group MIB
> RFC 2865 Remote Authentication Dial In User Service (RADIUS)
> RFC 2787 Definitions of Managed Objects for the Virtual Router Redundancy Protocol
> RFC 3014 Notification Log MIB
> RFC 3273 Remote Network Monitoring Management Information Base for High Capacity Networks
> RFC 3411 An Architecture for Describing Simple Network Management Protocol (SNMP) Management Frameworks
> RFC 3412 Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)
> RFC 3413 Simple Network Management Protocol (SNMP) Applications
> RFC 3414 User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3)
> RFC 3415 View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)
> RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP)
> RFC 3584 Coexistence between Version 1, Version 2, and Version 3 of the Internetstandard Network Management Framework
> RFC 3592 Definitions of Managed Objects for the Synchronous Optical Network/Synchronous Digital Hierarchy (SONET/SDH) Interface Type
> RFC 3635 Definitions of Managed Objects for the Ethernet-like Interface Types

Other – Network Management

> IANA-IFType-MIB
> IEEE 802.3 LAG MIB
> An extensive array of proprietary MIBs is also supported.

ALCATEL 7450
Ethernet Services Switch

The Alcatel 7450 Ethernet Service Switch (ESS) sets a new market standard for enabling the delivery of profitable Ethernet business services and high density serviceaware Ethernet aggregation for consumer triple play services over IP/MPLS-based networks. The Alcatel 7450 ESS provides the stability and scalability of an MPLS control plane along with the bandwidth and economics of Ethernet.

FEATURES

Reliability and Redundancy

> Passive backplane
> 1:1 rapid failover between redundant switch fabric/control plane modules (SF/CPM) in seven-slot chassis
> 1:1 redundancy on common system elements, power supply (AC or DC), cooling fan
> Switch fabric graceful degradation
> Hot-swappable system components and physical interfaces
> ECC memory protection
> IEEE 802.3ad link aggregation and IEEE 802.1w Rapid Spanning Tree
> Selective MAC flush
> Equal cost multi-path
> MPLS path protection
> MPLS FRR — sub-50 ms failover
> H-VPLS spoke redundancy with MAC flush capability

High Availability Features in Systems with Redundant SF/CPMs

> Configuration redundancy
> Non-stop routing support for OSPF, IS-IS, RIP, LDP, T-LDP, VRRP and PPP, ARP, LACP
> Non-stop service for VPLS and VLL
> Graceful restart helper mode for OSPF and IS-IS
> Persistency across reboot for anti-spoofing filters, ARP table and DHCP entries

Density and Flexibility

Seven-slot chassis:
> 200 Gb/s switch fabric option (redundant, full duplex)
> 5 input/output modules (IOMs)
> 20 Gb/s or 40 Gb/s IOM slot capacity (full duplex)
> Five ESS-7 chassis can be mounted in a 7-ft. rack

One-slot chassis:
> 20 Gb/s (full duplex) fabric/system capacity in 1.5 rack units
> 1 IOM
> 20 Gb/s IOM slot capacity

On both chassis:
> On both systems each IOM accepts two hot-pluggable MDAs; IOMs and MDAs can be spared across two chassis
> Optical interfaces use small form factor pluggable (SFP) optics that can be populated on a per-port basis
> 10 Gigabit Ethernet MDA
> Multirate PoS/SDH OC-3/STM-1, OC-12/ STM-4 MDAs

provide soft-selectable interface speeds on a per-port basis

Quality of Service

> Per-service QoS/H-QoS
> Per-service queuing, shaping and policing
> Ingress and egress buffering (up to 200 ms at

10 Gb/s in each direction)
> CIR, PIR, MBS queue parameters
> Thousands of ingress and egress operations
> Programmable queues, CIR/PIR enforcement
> Premium, assured and best-effort forwarding classes
> IEEE 802.1p filtering/marking/re-marking
> IETF DSCP filtering/marking/re-marking
> WRED on ingress and egress
> Packet marking (DiffServ)
> Traffic shaping and policing (ingress and egress)
> Packet and byte counter statistics (ingress and egress)

Alcatel Triple Play Services Delivery Architecture

> DHCP relay with support for option 82 and DHCP snooping
> DHCP session RADIUS authentication
> DHCP lease state persistency
> Automatically provisioned anti-spoofing filters
> Local proxy ARP
> ARP reply agent (for ARP security)
> IEEE 802.1x port-based authentication
> IGMP support for multicast and video services
> Split horizon groups to control unauthorized peer-to-peer communication
> Multicast VPLS registration

Service Assurance and Troubleshooting

> Integrated Ethernet OA&M utilities and diagnostics for VPN services
> Ethernet service, LSP and MAC pings, following the actual provisioned path of the service through the network
> Port and service mirroring, which goes far beyond the basic port mirroring, available on both ingress and egress flows; can be set up locally or remotely
> VPLS MAC trace route displays the Layer 2 path taken
by the packets from the specified source MAC address to the specified destination MAC address
> Service assurance agent (SAA)
> VPLS CPE ping locates IP addresses of client devices in a VPLS

Service-Aware Accounting and Billing

> Per-service, per-flow accounting and billing statistics — all at wirespeed
> Maintains statistics for thousands of services simultaneously
> Local data storage allows historical statistics to be maintained for several days
> Accounting data stored in XML format
> An extensive array of private enterprise MIBs are also supported

TECHNICAL SUMMARY

ESS-7

Bandwidth
> 200 Gb/s full duplex switch fabric options
> 20 Gb/s or 40 Gb/s IOM slot capacity (full duplex)
> Optional switch fabric/CPU redundancy

IOM Slots/MDAs
> 5/10

Redundancy
> Power, CPU, fabric, fans

Dimensions
> Height: 35.56 cm (14 in./8 rack units)
> Width: 44.4 cm (17.5 in.)
> Depth: 59.69 cm (23.5 in.)

Weight
> 27.22 kg (60 lb.) chassis weight (with 2 fan trays and air filters)
> Power supplies:
¬ DC PEM: 2.27 kg (5 lb.)
¬ AC PEM: 0.68 kg (1.5 lb.)
¬ AC power supply module (PSM): 4.76 kg (10.5 lb.)

Power
> 220 V AC
> -48 VDC
> 1+1 redundancy

Cooling
> Side-to-back air flow

Physical Interfaces

Copper Ethernet cards
> 60-port 10/100Base-T Ethernet
> 20-port 10/100/1000Base-T Ethernet

Optical Ethernet cards
> 20-port 100-FX Ethernet
> 10-port Gigabit Ethernet
> 20-port Gigabit Ethernet
> 1-port 10 Gigabit Ethernet
> 2-port 10 Gigabit Ethernet

POS cards (SONET and SDH)
> 16-port OC-3c/STM-1 POS
> 8-port OC-12c/STM-4 and OC-3c/STM-1 multirate POS
> 16-port OC-12c/STM-4 and OC-3c/STM-1 multirate POS
> 2-port OC-48c/STM-16 POS
> 4-port OC-48c/STM-16 POS

Software Specifications

Layer 2 features
> 802.1d Bridging, 802.1w Rapid Spanning Tree
> PVST Interoperability
> 802.1p/Q
> Q-in-Q VLAN stacking support
> 802.3x Flow Control
> 802.3ad Link Aggregation

Routing
> IS-IS, OSPF, RIPv1 and 2
> OSPF-TE and IS-IS-TE
> Equal cost multipath routing (up to 16 paths)
> Line rate Layer 2, Layer 3 and Layer 4 ACL filtering at 10 Gb/s
> Static and default routing
> GRE
> IGMP v1, v2, v3 and IGMP snooping

MPLS
> Static and dynamic LSPs
> Traffic engineering
> Signaling protocols: LDP and RSVP-TE

> LSR and LER
> LSP redundancy
> RSVP-TE: primary/secondary paths and explicit routing
> FRR with sub 50-ms failover

Security

> Denial of service (DoS) attack prevention
> Wire-speed ACLs
> MD5 password encryption and authentication for routing protocols
> Classification and prioritization of control traffic
> SSH/SCP
> 802.1x port-based authentication
> Prevention of unauthorized communication between DSL subscribers
> DHCP-based automatic IP/MAC filter and static ARP cache population for DSL subscribers
> Dedicated management Ethernet routing instance
> Control processor module queuing (CPMQ); separate hardware-based CPM queues allocated on a per-peer basis
> Inbound and outbound LDP label binding filtering
> Limitation of MAC address moves between VPLS instances

Network Management

> Alcatel 5620 SAM provides extensive fault, configuration, accounting performance and security management
> Fully featured industry command line interface (CLI), including service CLI
> SSH and Telnet
> FTP, TFTP and SCP
> RADIUS (AAA)
> TACACS+
> SNMP v1, v2c and v3
> Local and remote port/service/flow mirroring
> Service assurance tools including: service ping, SDP ping, LSP ping, MAC ping and MAC trace route
> Path MTU size measurement
> Round-trip delay, jitter, loss measurement (SAA)

Environmental Conditions

> Operating temperature:
0 C to 40 C (32 F to 104 F)
> Relative humidity:
0 to 90% (noncondensing)
> Operating altitude: sea level to 3,048 m (10,000 ft.)

Certification

Safety

> UL60950-1
> CAN60950-1
> EN60950-1
> CE Mark

EMC

> AS/NZS 3548:1995 (Australia/New Zealand)
> EN55022 (Europe)
> VCCI Class A (Japan)
> FCC Part 15 Class A (United States)

Standards Compliance

Ethernet

> IEEE 802.1D Bridging
> IEEE 802.1P/Q VLAN Tagging and Priority
> IEEE 802.1w Rapid STP
IEEE 802.1x Port-based Authentication
> IEEE 802.3 10Base-T
> IEEE 802.3u 100Base-TX
> IEEE 802.3x Flow Control
> IEEE 802.3z 1000Base-SX/LX
> IEEE 802.3ad Link Aggregation
> IEEE 802.3ae 10 Gb/s Ethernet

TCP/IP

> RFC 768 User Datagram Protocol
> RFC 791 Internet Protocol
> RFC 792 Internet Control Message Protocol
> RFC 793 Transmission Control Protocol
> RFC 826 Address Resolution Protocol
> RFC 854 Telnet Protocol Specification
> RFC 1350 Trivial File Transfer Protocol
> RFC 1519 Classless Inter-Domain Routing
> RFC 1542 Bootstrap Protocol
> RFC 1812 Requirements for IPv4 Routers

VRRP

> RFC 3768 Virtual Router Redundancy Protocol

RIP

> RFC 1058 RIP Version 1
> RFC 2082 RIP-2 MD5 Authentication
> RFC 2453 RIP Version 2

OSPF

> RFC 1765 OSPF Database Overflow
> RFC 2370 Opaque LSA Support
> RFC 2328 OSPF Version 2
> RFC 3101 OSPF NSSA Option
> RFC 3630 Traffic Engineering Extensions OSPFv2
> RFC 1321 The MD5 Message-Digest Algorithm
> RFC 3623 Graceful OSPF Restart

IS-IS

> RFC 1142 OSI IS-IS Intra-domain Routing Protocol
> RFC 1195 Use of OSI IS-IS for routing in TCP/IP and dual environments
> RFC 2763 Dynamic Hostname Exchange for IS-IS
> RFC 2966 Domain-wide Prefix Distribution with Two-Level IS-IS
> RFC 2973 IS-IS Mesh Group
> RFC 3373 3-way handshake for IS-IS point-to-point adjacencies
> draft-ietf-isis-traffic-02.txt Traffic Engineering Extensions ISIS
> RFC 3567 IS-IS Cryptographic Authentication (MD5)
> ISO/IEC 10589 IS to IS intra-domain routing information exchange protocol
> RFC 3847 Restart Signaling for IS-IS

IGMP

> RFC 1112 Host Extensions for IP Multicasting
> RFC 2236 Internet Group Management Protocol,

Version 2
> RFC 3376 Internet Group Management Protocol, Version 3

PPP

> RFC 1661 The Point-to-Point Protocol (PPP)
> RFC 1332 The PPP Internet Protocol Control Protocol
> RFC 1377 The PPP OSI Network Layer Control Protocol
> RFC 1662 PPP in HDLC-like Framing
> RFC 1989 PPP Link Quality Monitoring
> RFC 2615 PPP over SONET/SDH
> RFC 3518 PPP Bridging Control Protocol

DHCP

> RFC 1542 Clarifications and Extensions for the Bootstrap Protocol
> RFC 2131 Dynamic Host Configuration Protocol
> RFC 3046 DHCP Relay Agent Information Option (Option 82)
> RFC 1534 Interoperation between DHCP and BOOTP

GRE

> RFC 1701 Generic Routing Encapsulation
> RFC 1702 Generic Routing Encapsulation over IPv4 networks
> RFC 2784 Generic Routing Encapsulation

MPLS

> RFC 2702 Requirements for Traffic Engineering over MPLS
> RFC 3031 MPLS Architecture
> RFC 3032 MPLS Label Stack Encoding
> RFC 3063 MPLS Loop Prevention Mechanism
draft-ietf-mpls-lsp-ping-02.txt LSP Ping

LDP

> RFC 3036 LDP Specification
> RFC 3037 LDP Applicability

RSVP-TE

> RFC 2430 A Provider Architecture for DiffServ and TE
> RFC 3209 Extensions to RSVP for LSP Tunnels
> RFC 3210 Applicability Statement for Extensions to RSVP for LSP Tunnels
> RFC 2961 RSVP Refresh Overhead Reduction Extensions
> RFC 3175 Aggregation of RSVP for IPv4 and IPv6 Reservations
> RFC 3181 Signaled Pre-emption Priority Policy Element
> draft-ietf-mpls-lsp-fastreroute-03.txt Fast Reroute

Differentiated Services

> RFC 2474 Definition of the DS Field in the IPv4 and IPv6 Headers
> RFC 3246 Assured Forwarding PHB Group
> RFC 2598 An Expedited Forwarding PHB
> RFC 3140 Per-Hop Behavior Identification Codes

RADIUS

> RFC 2865 Remote Authentication Dial In User Service
> RFC 2866 RADIUS Accounting

VPLS

> draft-ietf-l2vpn-vpls-ldp-xx.txt (previously know as "lasserre-vkompella")
> draft-stokes-vkompella-ppvpn-hvplsoam-xx.txt or "stokes-vkompella"
> draft-augustyn-vpls-requirements-xx.txt

TACACS+

> IETF draft-grant-tacacs-02.txt

SSH

> IETF draft-ietf-secsh-userauth-18.txt SSH Authentication Protocol
> IETF draft-ietf-secsh-connect-18.txt SSH Connection Protocol
> IETF draft-ietf-secsh-transport-17.txt SSH Transport Protocol
> IETF draft-ylonen-ssh-protocol-xx.txt

Ethernet Pseudowire

> draft-ietf-pwe3-ethernet-encap-xx.txt
> draft-ieft-pwe3-control-protocol-xx.txt
> draft-so-pwe3-ethernet-xx.txt
> draft-martini-l2circuit-trans-mpls-xx.txt
> draft-martini-l2circuit-encap-mpls-xx.txt

SONET/SDH

> Telcordia GR-253-CORE Synchronous Optical Network
(SONET) Transport Systems: Common Generic Criteria
> ITU-T G.783 Characteristics of Synchronous Digital Hierarchy (SDH) equipment functional blocks
> ITU-T G.957 Optical interfaces for equipment and systems relating to the synchronous digital hierarchy
> ITU-T G.707 Synchronous Digital Hierarchy Bit Rates

Network Management

> RFC 1724 RIPv2 MIB Extensions
> RFC 1850 OSPF-MIB
> RFC 1907 SNMPv2-MIB
> RFC 2011 IP-MIB
> RFC 2012 TCP-MIB
> RFC 2013 UDP-MIB
> RFC 2096 IP-Forward-MIB
> RFC 2206 RSVP-MIB
> RFC 2558 SONET-MIB
> RFC 2571 SNMP-FRAMEWORK-MIB
> RFC 2572 SNMP-MPD-MIB
> RFC 2573 SNMP-TARGET-&-NOTIFICATION-MIB
> RFC 2574 SNMP-USER-BASED-SM-MIB
> RFC 2575 SNMP-VIEW-BASED-ACM-MIB
> RFC 2576 SNMP-COMMUNITY-MIB
> RFC 2665 EtherLike-MIB
> RFC 2819 RMON-MIB
> RFC 2863 IF-MIB
> RFC 2864 Inverted-Stack-MIB
> RFC 2787 VRRP-MIB
> RFC 3014 Notification-LOG-MIB
> RFC 3273 HCRMON-MIB
> IETF draft-ietf-ospf-mib-update-04.txt OSPF Version 2
Management Information Base
> IETF draft-ietf-mpls-lsr-mib-06.txt MPLS Label Switch
Router Management Information Base Using SMIv2
> IETF draft-ietf-mpls-te-mib-04.txt MPLS Traffic Engineering Management Information Base
Using SMIv2
> IETF draft-ietf-mpls-ldp-mib-07.txt Definitions of Managed Objects for the Multiprotocol Label Switching, Label Distribution Protocol (LDP)

> IETF draft-ietf-isis-wg-mib-05.txt Management Information Base for IS-IS
> IANA iFType-MIB Textual Convention
> IEEE 8023-LAG-MIB Link Aggregation module for managing IEEE Std 802.3ad
> An extensive array of private enterprise MIBs are also supported

ALCATEL 7330 ISAM

The Alcatel 7330 Intelligent Services Access Manager Fiber to the Node (ISAM FTTN) takes the best of Alcatel's DSL developments, providing a unique set of capabilities that enables service providers to deliver the most competitive triple-play service offerings. Building on Alcatel's leadership in broadband access, the Alcatel 7330 ISAM FTTN addresses the growing need for a deep-fiber access solution. This innovative platform enables service providers to offer IPTV and other ultra-high bandwidth applications while leveraging the existing copper plant. As a member of the ISAM family,
the Alcatel 7330 ISAM FTTN shares technology with the Alcatel 7302 ISAM, the industry's first IP-based platform capable of delivering 100 percent triple-play services.

The Alcatel 7330 ISAM FTTN is the latest member of the ISAM family. It builds on Alcatel's worldwide DSL expertise by integrating the best technology available from the 7302 ISAM into a more compact remote digital subscriber line access multiplexer (DSLAM) tailored for the unique requirements of FTTN networks. Figure 3 provides an Alcatel 7330 ISAM FTTN network layout showing a standard area the service provider would cover (the carrier serving area). The central office has an Alcatel 7330 ISAM FTTN host shelf that is connected to an Alcatel 7330 ISAM FTTN expansion shelf (ES) at a remote site. This extends the carrier serving area in a cost-efficient way, allowing modular growth and quick deployment of new services. Another way of extending the coverage is subtending an Alcatel 7330 ISAM FTTN host to an Alcatel 7302 ISAM. The host shelf is extended with an Alcatel 7330 ISAM FTTN ES.
To meet the very challenging requirements of an FTTN network, the Alcatel 7330 FTTN has been engineered to support:

> A non-blocking Ethernet architecture to enable 100 percent take rates of IPTV
> Full Internet group management protocol (IGMP) support for multicasting
> Line-rate IP and Ethernet forwarding via reuse of the 7302 ISAM network processor technology
> Multiple ADSL line termination (LT) options:
    ¬ ADSL
    ¬ ADSL2
    ¬ ADSL2plus, with bonding
    ¬ READSL2
    > VDSL LT options
    ¬ VDSL
    ¬ VDSL2 (later)
> Gigabit Ethernet (GigE) network interfaces
> Integration with the Alcatel 5523 ADSL Work Station (AWS) element management system (ETSI)
> Integration with the Alcatel 5526 Access Management System (AMS) element management system (ANSI)

The 7330 ISAM FTTN architecture meets the service providers' challenge by delivering ultra-high bandwidth connectivity to subscribers over the existing copper plant. With the Alcatel 7330 ISAM FTTN in their arsenal, service providers can halt the competitive siege by rapidly deploying a ubiquitous service offering to their entire subscriber base. Very small to large serving areas can be addressed with multiple form factors of a single Alcatel solution (see Figure 6). Regardless of the form factor, each 7330 ISAM FTTN supports:

> A non-blocking, Ethernet architecture with a 24-Gb/s switching fabric
> Multi-ADSL (ADSL, ADSL2, ADSL2plus with bonding and READSL2)
> VDSL and VDSL2 services
> Multicast requirements with IGMP snooping
> Priority queuing for QoS
> Full element management through the Alcatel 5526 AMS (ANSI) or the Alcatel 5523 AWS (ETSI)

EXHIBIT G.6

CONFIDENTIAL, PROPRIETARY AND/OR COMPETITIVELY-SENSITIVE INFORMATION HAS BEEN DELETED AND FILED WITH THE DIRECTOR OF COMMERCE AND CONSUMER AFFAIRS UNDER SEPARATE ENVELOPE UNDER AND SUBJECT TO LETTER DATED MAY 5, 2006.
THE INFORMATION CONTAINED IN SAID ENVELOPE SHALL NOT BE DISCLOSED, PROVIDED OR OTHERWISE DISSEMINATED TO THIRD PARTIES OUTSIDE THE CABLE TELEVISION DIVISION, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, WITHOUT THE PRIOR WRITTEN CONSENT OF HAWAIIAN TELCOM SERVICES COMPANY, INC.

EXHIBIT G.17

INET Proposal

Applicant agrees to accumulate in an INET account on its books a credit equal to 1 percent of Gross Revenues (as such term is defined in this Section) for the benefit of the State of Hawaii Department of Commerce and Consumer Affairs ("DCCA") to be used for INET purposes.

The DCCA shall use the INET credits to purchase network products/services from Applicant.

The rate charged by Applicant for network services will be based on a 5 year term of commitment and as defined by the then prevailing network service tariff as governed by the State of Hawaii Public Utility Commission ("PUC"), if one is applicable, or through the use of the Individual Case Basis ("ICB") process of Applicant's affiliate, Hawaiian Telcom, Inc., in accordance with the rules and regulations of the PUC. For a non-regulated, non-tariff network service, the rate would be negotiated with the DCCA.

The INET credits may be used to pay Monthly Recurring Charges ("MRC") and/or Non-Recurring Charges ("NRC").

In the event that a special construction charge is required for a given network service request, Applicant or its affiliate, as applicable, will be able to recover the time and materials associated with the special construction charges.

For purposes of this EXHIBIT G.17, the term "Gross Revenues" shall have the meaning in Cable Television Division D&O No. 261 dated August 11, 2000, i.e., revenue from charges relating to the provision of video services billed for and collected by Applicant from its subscribers. Such charges shall include customer billings and collections for entertainment and nonentertainment services, installation, connection, reconnection and reinstatement of equipment necessary for the utilization of the video services. "Gross Revenues" shall exclude revenue from charges and collections for nonsubscription or nonsubscriber related sources such as advertising sales, home shopping commissions, franchise fees passed through to subscribers, and uncollected debt except that once such debt is subsequently collected it shall be included as part of Gross Revenue.

EXHIBIT G.22

The following are the testing procedures that will be determined upon final design and build of Applicant's super headend (SHE). The following criteria will be incorporated in the Acceptance Test Plan for Applicant.

Test Strategy – Applicant's headend vendor and consultant will develop detailed component and system level test plans for SHE supplied equipment. The headend vendor will use its lab facilities to create and validate these detailed component and system level test plans. These test plans will be used to verify the performance of the SHE equipment and systems. The following is an outline of the proposed test plans.

- **Super Headend (SHE) Test Plan**
    - SHE Signal Acquisition
        - Satellite Antenna Subsystem

Fixed Receive-Only Satellite Antenna Test:

- Verify that the satellite antenna is peaked and cross-polarized on the assigned satellite
- Verify that the satellite antenna and LNBs meet performance specifications
- Verify that the LNB power inserter is functioning properly
- Verify that the ROSA NMS can monitor and control the active devices properly on the satellite antenna subsystem

Motorized Receive Only Satellite Antenna Test:

- Verify that the motors on the satellite antenna can travel the specified azimuth, elevation, and polarization distances.
- Verify that the azimuth, elevation, and polarization hardware and software limits are adjusted correctly
- Verify that the satellite antenna and LNBs meet performance specifications
- Verify that the de-icing subsystem is functioning properly both in manual and automatic modes
- Verify that the LNB power inserter is functioning properly
- Verify that the assigned satellites are programmed in the controller memory correctly (peaked and cross-polarized)
- Verify that the ROSA NMS can monitor and control the active devices properly on the satellite antenna subsystem
- L-Band Fiber Transport Test

- Verify that the primary and standby L-Band fiber optic transmitter has the specified RF input level and optical output level
- Verify that the primary and standby L-Band fiber optic receiver has the specified optical input level and RF output level
- Verify that the active L-Band splitter has the specified RF input level and output level (on all output ports)
- Verify the 2 x 1 L-Band protection switch is configured properly and will switch automatically from its primary input to its standby input when the primary RF input drops below the configured threshold level
- Verify that the ROSA NMS can monitor and control the active devices properly

- L-Band Switch Matrix Test

  - Verify that the L-Band switch matrix is connected and configured properly
  - Verify that any of the eight inputs on the switch can be routed to any or all outputs on the switch
  - Verify that the ROSA NMS can monitor and control the switch properly

- SHE Receivers

  - Analog Satellite Receiver Test (Primary and Standby)

    - Verify that the RF input signal level is within the specified levels
    - Verify that the receiver is tuned to the correct service
    - Verify that the receiver's carrier-to-noise level is equal to or above the specified minimum level
    - Verify that the receiver is authorized to receive the service
    - Verify that the audio and video output is correct for the assigned service and meets specifications
    - Verify that the ROSA NMS can monitor and control the receiver properly

  - SD Digital Satellite Receiver Test (Primary and Standby)

    - Verify that the RF input signal level is within specified levels
    - Verify that the receiver is tuned to the correct service
    - Verify that the receiver's Bit Error Rate (BER) or Eb/No is equal to or above the specified minimum level
    - Verify that the receiver is authorized to receive the service
    - Verify that the audio and video output is correct for the assigned service and meets specifications

- Verify that the ROSA NMS can monitor and control the receiver properly

- HD Digital Satellite Receiver Test (Primary and Standby)

  - Verify that the RF input signal level is within specified levels
  - Verify that the receiver is tuned to the correct service
  - Verify that the receiver's Bit Error Rate (BER) or Eb/No is equal to or above the specified minimum level
  - Verify that the receiver is authorized to receive the service
  - Verify that the ASI output on the receiver is configured correctly and meets specifications
  - Verify that the audio/video decoders are disabled on the receivers
  - Verify that the ROSA NMS can monitor and control the receiver properly

- HD Decoder Test (Primary and Standby)

  - Verify that the decoder is tuned to the correct service
  - Verify that the decoder has the correct audio and video output for the assigned service and meets specifications
  - Verify that the ROSA NMS can monitor and control the decoder properly

- Music Service Receiver Test (Primary and Standby)

  - Verify that the RF input signal level is within specified levels
  - Verify that the receiver is tuned to the correct service
  - Verify that the receiver's Bit Error Rate (BER) or Eb/No is equal to or above the specified minimum level
  - Verify that the receiver is authorized to receive the services
  - Verify that the ASI output on the receiver is configured correctly and meets specifications
  - Verify that the ROSA NMS can monitor and control the receiver properly

- SD Analog-to-Digital Converter/Frame Synchronizer/Processing Amplifier Test (Primary and Standby)

  - Verify the audio and video analog-to-digital conversion is functioning properly and meets specifications
  - Verify that the audio embedding is functioning properly and meets specifications
  - Verify that the audio and video processing amplifiers are functioning correctly and meets specifications

- Verify that the frame synchronizer is functioning properly with both internal and external reference signals and meets specifications
- Verify that the video thumbnail output is functioning properly and is received and displayed on the thumbnail server and client
- Verify that the ROSA NMS can monitor and control the device properly

- SD Frame Synchronizer/Processing Amplifier Test (Primary and Standby)

  - Verify that the audio and video processing amplifiers are functioning correctly and meets specifications
  - Verify that the frame synchronizer is functioning properly with both internal and external reference signals and meets specifications
  - Verify that the video thumbnail output is functioning properly and is received and displayed on the thumbnail server and client
  - Verify that the ROSA NMS can monitor and control the device properly

- HD Frame Synchronizer and Processing Amplifier Test (Primary and Standby)

  - Verify that the audio and video processing amplifiers are functioning correctly and meets specifications
  - Verify that the frame synchronizer is functioning properly with both internal and external reference signals and meets specifications
  - Verify that the video thumbnail output is functioning properly and is received and displayed on the thumbnail server and client
  - Verify that the ROSA NMS can monitor and control the device properly

- SDI/HD-SDI/ASI Video Matrix Switch Test

  - Verify that the switch is functioning properly including redundant power supplies, fans, and controller
  - Verify that the switch is provisioned correctly
  - Verify that the remote control panels are functioning properly
  - Verify that the controller is functioning properly
  - Verify that any SDI input can be routed to any or all SDI outputs, but can not be routed to any HD-SDI or ASI outputs
  - Verify that any HD-SDI input can be routed to any or all HD-SDI outputs, but can not be routed to any SDI or ASI outputs
  - Verify that any ASI input can be routed to any or all ASI outputs, but can not be routed to any SDI or HD-SDI outputs
  - Verify that the ROSA NMS can monitor and control the switch properly

- SHE Encoders

    - SD H.264 Encoder Test
    - Verify the encoder is functioning properly and meets specifications
    - Verify that the encoder is configured correctly for the assigned service
    - Verify the correct source content is routed to the encoder
    - Verify via a reference decoder that the correct audio/video service is being encoded
    - Verify that the ROSA NMS can control and monitor the encoder properly

- HD-SDI Audio De-embedder Test

    - Verify that the audio de-embedder is functioning properly and meets specifications
    - Verify the AES audio outputs and HD-SDI output
    - Verify that the ROSA NMS can monitor and control the de-embedder properly

- HD H.264 Encoder Test

    - Verify the encoder is functioning properly and specified performance specifications
    - Verify that the encoder is configured correctly for the assigned service
    - Verify the correct source content is routed to the encoder
    - Verify via a reference decoder and stream analyzer that the correct audio/video service is being encoded at the assigned data rates and service configuration
    - Verify that the ROSA NMS can control and monitor the encoder properly

- ROSA NMS/EMS

    - ROSA NMS Test

        - Verify monitor and control of active devices
        - Verify system diagrams and maps are configured and functioning properly
        - Verify relationships, backup tasks, and alarm notifications are configured, enabled, and functioning correctly
        - Verify user privileges are configured correctly
        - Verify that the assigned local and remote clients are configured correctly

- Device and System Level Redundancy Tests (All redundancy tests will include procedures to verify alarm correlation tasks, backup tasks, and alarm notification tasks on the ROSA NMS)

    - Antenna Subsystem Redundancy Test
    - L-Band Fiber Transport Redundancy Test
    - Analog Satellite Receiver Redundancy Test
    - SD Digital Satellite Receiver Redundancy Test
    - HD Digital Satellite Receiver Redundancy Test
    - HD Decoder Redundancy Test
    - SD Analog-to-Digital Converter/Frame Synchronizer/Processing Amplifier Redundancy Test
    - SD Frame Synchronizer/Processing Amplifier Redundancy Test
    - HD Frame Synchronizer/Processing Amplifier Redundancy Test
    - SDI/HD-SDI/ASI Video Matrix Switch Redundancy Test
    - SD H.264 Encoder Redundancy Test
    - HD H.264 Encoder Redundancy Test
    - ROSA NMS Hardware Redundancy Test

EXHIBIT G.26

CONFIDENTIAL, PROPRIETARY AND/OR COMPETITIVELY-SENSITIVE INFORMATION HAS BEEN DELETED AND FILED WITH THE DIRECTOR OF COMMERCE AND CONSUMER AFFAIRS UNDER SEPARATE ENVELOPE UNDER AND SUBJECT TO LETTER DATED MAY 5, 2006.
THE INFORMATION CONTAINED IN SAID ENVELOPE SHALL NOT BE DISCLOSED, PROVIDED OR OTHERWISE DISSEMINATED TO THIRD PARTIES OUTSIDE THE CABLE TELEVISION DIVISION, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, WITHOUT THE PRIOR WRITTEN CONSENT OF HAWAIIAN TELCOM SERVICES COMPANY, INC.

EXHIBIT H.1

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EXHIBIT H.2

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EXHIBIT H.7

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EXHIBIT I.3

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EXHIBIT I.4

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