

CORPORATE OBJECTIVE

Our goal is to make available, to all clients, the economic and functional benefits of current telecommunication technology. We will supply advice and council through the maze of current product and service offerings. We then will provide an ongoing interface with our clients' vendors, supplying service and continued management. We will concentrate on the following goals when working with all clients:

INCREASE USER AWARENESS: Our staff will work to develop a program to simplify the use of advanced technologies, thereby increasing your staff's awareness and ability to adopt these technologies.

INCREASE SERVICE EFFICIENCIES: The Telecommunication Technologies Group, Inc. (TTG) staff has been trained in the development of networks based on overall cost efficiencies. Down time and unnecessary service calls are detrimental to a company's bottom line. Your network is a lifeline to your staff. We always will define recommendations in terms of overall network effect.

DECREASE TELECOMMUNICATION EXPENDITURES: TTG will reduce your overall telecom budget by deploying current technologies and taking advantage of our vendor network to produce economies of scale and vendor contracts tailored to your company.

PLAN FOR THE FUTURE: The TTG staff will evaluate all recommendations in terms of their effect on the company for the next ten years. Our industry has changed rapidly and positioning your company to do the same will be the key to your network's overall success.

TTG will add to your profits while increasing communication performance.

We believe the best investment a company can make is in the managed control of expenses. We guarantee a high rate of return on our services, ensuring our clients a mutually profitable relationship.

We value our client relationships and seek every opportunity to better understand your needs. We welcome any suggestions that would enable us to better serve you.

**PROFESSIONAL
CONSULTING SERVICES**

DETAILED NETWORK ANALYSIS

TTG will analyze your total telecommunication network needs. All recommendations will be based on their relation to cost, efficiency, performance, service and user friendliness.

PHASE I: Network Definitions

TTG will perform statistical evaluations of the following four areas of your network:

- ***Comprehensive Engineering Studies***

TTG will team with your Local Exchange Carrier (LEC) to evaluate traffic that currently is originating or terminating at the company. These studies provide the following information:

- **Total Circuit Usage**
- **Daily Busy Hour**
- **Total Calls Busy**
- **Percentage of Busy**

We then will analyze this information, using universally accepted telephone algorithms. The resulting information will allow us to tailor both the correct number of lines and the right hunting mix.

- ***Records Reconciliation Audit***

TTG will request your Customer Service Records (CSR) from both the LEC and your Long Distance Carrier (OCC). We will review your bills and services for the past year and reconcile any incorrect invoices. TTG also will conduct an on-site survey to inventory all working circuits at your location. This information will be matched against your CSRs, your billing invoices, and finally, against the carrier's filed tariff. Then TTG will file the necessary documents to procure any refunds or credits.

- **LEC Record Review**
- **On-site Survey**
- **Credit and Refund Application**
- **OCC Review**
- **Tariff Verification**
- **Line Activity Verification**

- ***Equipment Impact Evaluation***

TTG will perform an in-depth evaluation as to the effectiveness and performance of your current equipment (CPE). We will evaluate current capability levels that are not being utilized. We will investigate the availability and need of system upgrades. TTG will evaluate the cost of new equipment as compared to current maintenance levels, as well as negotiate vendor concessions on leases and maintenance agreements.

- **Equipment Inventory**
- **User Reviews**
- **Utilization Analysis**
- **Alternative Equipment**
- **Departmental Communication Review**
- **Lease Agreements**
- **Maintenance Agreements**
- **Cost Benefit Analysis**
- **Feasibility Study**
- **Peripheral Needs Analysis**

- ***Network Analysis***

This study will evaluate the statistical specifications of your costs to communicate. We will evaluate where your traffic is going and at what time of day. This analysis will determine the correct product mixes for the optimum cost and port configurations within your network.

- **Call Patterns**
- **Traffic Distribution**
- **Carrier (OCC) Analysis**
- **Local Line Types**
- **Incoming 800**
- **Private Line Analysis**
- **Inter-Office Traffic**
- **Facility Management**

This statistical information is compiled in report form to establish the benchmark of your network. This benchmark will be used to measure future savings and determine fees. Once this benchmark is agreed upon, the second phase of the DNA will be reviewed.

PHASE II: Strategic Technology Plan
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TTG will use the statistical information in the DNA to compile recommendations in each area outlined. These recommendations will be based on their overall performance. System quality, user efficiency, ease of transition, ability to manage, adaptability, long term effectiveness, and overall cost will be weighed heavily in our evaluation prior to arriving at a recommendation. Once compiled, they are presented for your review. Your organization determines which recommendations best fit your overall corporate strategy and approves those items for implementation. TTG then will act on your behalf to implement these changes. TTG will represent your company during the entire length of our agreement for service and management of all facilities.

FEES

TTG shall require a retainer against future savings before beginning this project. The retainer for {client name} would be \$X,XXX. During implementation and in year one, the fee shall be 75% of actual annual savings. All savings shall be monitored in a quarterly Management of Network Implementation Report (MONI) detailed later. All fees will be based on this report. Prior to each quarter, a projected amount of savings will be determined using either the information in the optimization plan or the last quarterly MONI report. This projection will be multiplied by the appropriate annual percentage fee to determine TTG's monthly fees. These fees shall be trued up at the end of each quarter, based on the rate in affect during the past quarter.

GUARANTEE

TTG guarantees {client name} \$X,XXX in first year implemented annualized savings. If during the first year after implementation, {client name} does not realize these savings, TTG will refund the difference between \$X,XXX and 75% of actual annualized savings.

Management of Network Implementation (MONI) Report

On a quarterly basis, TTG shall gather the appropriate information to produce a spreadsheet detailing the actual amount saved during that quarter. This spreadsheet (see attached example), will show actual usage and savings for each area evaluated. A cumulative report will be delivered at the close of each year.

SPECIAL PROJECTS

TTG is available to work on a special project basis. Special Projects range in scope from Equipment Procurement to Projects based on individual client requirements. Below are common examples of project types and scope.

EQUIPMENT PROCUREMENT

Generally divided into two sections, *Evaluation and Recommendation* and *Negotiation and Implementation*, this service assures clients that the equipment they purchase will meet feature demands today and carry them technologically into the future. It is a completely independent look at the market and what is available.

PHASE I: Evaluation and Recommendation

- ***Evaluation***

Needs analysis is the first step towards developing a Request for Proposal (RFP). Key staff interviews are conducted to determine system performance requirements and determine the need for systems such as a PBX, Voice Mail, Call Accounting and Integrated Voice Response (IVR). We then evaluate future business demands regarding voice and data requirements.

A review of the physical site will be conducted to determine any need for special cabling. TTG believes it is imperative to maintain control of the cable distribution and quality of the cable. We recommend that we put out the cabling on an independent bid to multiple cabling companies if new cabling is required.

- ***Recommendation***

TTG will prepare a written evaluation of the systems being evaluated. TTG will make a specific vendor/system recommendation to the client, who then will evaluate our recommendation and select a vendor/system before proceeding with Phase II Negotiation and Implementation.

Then TTG will prepare an RFP, submit it to the client for approval, and distribute it to approved vendors. TTG serves as interface for all technical specification questions the vendors may have. We review and evaluate vendor responses based on vendor size and reliability, how accurately specifications are met, system price, maintenance pricing, after market pricing and other criteria agreed on in advance with the client.

TTG will prepare a formal recommendation and submit it complete with the evaluations. Once the client decides on a vendor/system, Phase II Negotiation and Implementation begins.

PHASE II: Negotiation and Implementation

Phase II consists of the process of programming, training and installing the new system(s) at the client location(s). The following are the steps taken by TTG in this process:

- ***Finalize Vendor Contract Terms***

TTG will negotiate with the chosen vendor the final price, after market price, warranty, installation expectations and training requirements. Included in this will be the vendor's acceptance of liability for any down time or delays with installation because of lack of coordination on their part.

- ***Establish Target Objectives***

TTG will work with the vendor to develop an implementation schedule for the process of implementing the new system(s). A timeline will establish training and installation dates pertinent to the client's staff.

- ***Coordinate System Programming***

TTG will work with the vendor and the client's staff to develop the most user-friendly and efficient operation for the new system(s). This includes features and system programming on all systems to be installed.

- ***Coordinate Cabling***

TTG will work with the cabling vendor, if required, to coordinate the installation of cable timely to the objectives established for the new system(s). This schedule will be determined by the cable design established in Phase I. TTG will oversee the installation as to the implementation of the prescribed cable design.

- ***Coordinate Pre-Installation Training***

TTG will coordinate multiple training classes for the client's staff to take place prior to the cutover. This will allow the staff to become familiar with the system operation prior to it actually being installed.

- ***Oversee Installation and Post Training***

TTG will be on-site during the install to oversee the effectiveness of the cutover. We will also be available to the vendor for programming issues and questions. We will coordinate and oversee the training process taking place during and after the cutover.

- ***Evaluate System Performance***

TTG will prepare a written evaluation of the implementation process to include the system's and vendor's overall performance. This document will be critical to the client before signing the vendor's Certificate of Acceptance. Once the certificate is signed, TTG's standard system services will be complete. Optional on-going management and monthly monitoring are discussed for the client's review in System Administration.

CABLE AND HOUSE DISTRIBUTION PLANT DESIGN

TTG can design the house cable plant to meet your needs today and the technology demands of tomorrow. Fiber, muxes, copper, laser and multiple combinations will be reviewed. TTG will prepare scale recommendations with the budgetary requirements for each option. The designs will cover equipment necessary for connectivity, distribution, actual cable costs, and estimated installation costs.

Once the cable plant design option is selected, TTG then can be retained to issue a formal RFP for cable and/or equipment. These services are described in the previous section.

TROUBLE RESOLUTION

Many times a vendor's response to its customers' communication problems is to recommend the purchase of new equipment. This often is done without proper diagnosis of the problems. We at TTG take a more responsible approach. We evaluate the problem, isolate it, arrange for testing to ensure the problem is that which is suspected, and design multiple solutions for our client. Many times, the purchase of new equipment is not required but, if it is, TTG will maximize that investment for our client by isolating the problem, providing cost-effective solutions, and giving an independent recommendation regarding the feasibility of the said solutions.

PROJECTS

As defined by specific scope, based on individual client needs, TTG has completed toll fraud evaluations, internal communication studies, and peripheral equipment designs. TTG staff will work closely with our client to define a project's scope, which determines the criteria and results to be achieved. TTG's solutions are tailored by nature because each client's special project is unique, based on the client needs and organizational direction.

FEES

TTG fees are either flat fee, as defined within the scope of the project, or hourly.

SYSTEM ADMINISTRATION

Today's marketplace places great demands on corporate resources. Many times the placement of telecom responsibilities falls by default on someone within your organization. TTG is available to tailor a monthly system administration proposal to your corporation's particular needs.

TTG will serve as the single point of resolution for all of your telecom vendors. We will coordinate all moves, adds, changes, facility orders, installs, service outages and trouble resolution. TTG also will review all billing for accuracy prior to payment.

TTG will work with your staff to develop a strategic plan for your communications to include: budget requirements, communication upgrades, peripheral interfaces and any call handling requirements or changes.

Outsourcing of strategic services and planning for your telecommunications with TTG professionals will allow your corporation to position itself for growth through this decade and into the future. TTG's staff will be at your disposal just as your own staff telecom professional would be. Time-sharing our staff's expertise and knowledge will provide economies of scale to your organization, contributing to the bottom line and increasing performance.

SUMMARY

TTG is a broad based consulting firm whose services establish a partnership to develop the best solution and design in meeting your telecommunication needs today and into the future. Our thorough analysis and subsequent optimization plan will give {client name} the most efficient utilization of all facilities. We will partner with {client name} becoming, in effect, your telecommunications department.

Our references will speak for themselves in terms of our abilities to meet our time commitments and client objectives. We believe that only through outsourcing your telecommunications functions will {client name} receive the best mix of value and technology.

TTG STAFF

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TTG's staff of professionals combines for more than 82 years experience in the telecommunications field. Our staff invests considerable time in continuing education and professional associations. Customer service and continuing telecommunication training are a top priority for our staff. TTG analysts are current in their understanding of current telecommunication technologies and how these applications can augment your communications network.

Brad E. Hayes - President

Mr. Hayes has been in telecommunications since 1982. He served as the National Director of Sales and Training for a major regional long distance carrier. He developed, wrote and implemented the marketing and training program used by this company in the development of over 200 sales and technical personnel. His areas of expertise include: network evaluation and development, bill reconciliation, private network design and implementation, data facility design, equipment procurement and application enhancement. He has been in private practice since 1988.

Professional References

Dave Eschleman, Partner
Nartker Grunewald & Associates (614) 793-1333

Dan Sullivan, Senior Vice-President
Comp Management Inc. (614) 760-2403

Brenten J Haver – Director, Project Management

Mr. Haver has served TTG customers for over five years. His expertise lies in the area of project management, which comes from his work in the aircraft industry. J has a BS degree in English education (Magna Cum Laude) from Ohio State University. During his tenure at TTG, J has been responsible for design and application development for all projects. He has overseen the implementation of over 120 installations and managed multiple node networks from eight to 34 in size. Through his research, J has been responsible for saving TTG clients over two million dollars. J's telecom education has continued as he has graduated from NT, Nortel, Intertel, and Tadiran manufacturing schools for system administration. During his time at TTG, J has instituted many TTG projects including web development, database to Internet integration, and finished product development. Recently, J has been promoted to Director of Project Management where he oversees all project managers and bill trending analysts. J's department is responsible for the ongoing management of over 25 clients and oversees any and all issues related to the clientele.

Professional References

Ray Lewis- General Manager
Inter-Tel Technologies

(614) 684-2500

Hewitt Grant- VP of operations
AcuSport Corporation

(937) 593-7010

Mary A. Pruett - Customer Service Director

Ms. Pruett has over 21 years experience in the telecommunications industry with Ameritech in both customer service and customer product development. She has served on Ameritech's Sales Advisory Board where she had the opportunity to work with businesses on the evaluation of the effectiveness of existing product offerings and the design and development of new products, based on customer needs assessment. Her area of expertise is that of customer service including: processing customer orders, follow-up on client issues and ensuring satisfaction, managing vendors to facilitate client changes, coordinating Centrex cutovers and additional installations, implementing voice mail, and resolving billing issues.

Professional References

Connie Ditalia, Manager
Ameritech Customer Care Center

(614) 223-6887

Diana Morris – Client Support Specialist

Mrs. Morris has been with TTG for the past four years. She has pioneered our division of reviewing our clients' billing, seeking adjustments, and developing monthly management reports for trending purposes. Diana acts as a senior telecom manager for many of our clients to ensure that all facets of their communications are being evaluated and managed properly from a management perspective. Diana's department has been responsible for securing over \$500,000 in credits for our clients over the past three years.

Professional References

Mark Hoover, Senior Vice-President
Robbins Inc.

(513) 871-8988

John D. Freundner - Project Manager

Mr. Freundner has over 13 years experience in the voice/data communications industry. He has served as a manager of information technology for the last six years where he managed all aspects of voice and data including: PBX management, network

engineering, budgeting, and new technology review. John served in the U.S. Army where he was assigned to White House communications. There he was responsible for secure voice and data at the White House and at remote locations. John has a B.S. degree in business from the Military College of Georgia. His expertise includes network design, LAN/WAN, UNIX, Novell, Windows NT, Project Management, PACS (Picture Archive Communication System).

Professional References

Ron Fuller, CCIE, CCDP, MCNE, CCNP-ATM
3X Corporation

(614) 433-9406

Donn Pahl, Senior Project Manager
Gates McDonald

David E. Lee - Data Project Coordinator

Mr. Lee joined TTG this year in order to help TTG more fully serve its clients in the Realm of Data Networks. David was previously the Director of Network Operations for a city government, and a network engineer/project coordinator with Liebert Global Services. His background also includes the U.S. Navy, where he designed and managed classified data networks, and was trained in network security. David's expertise has allowed TTG to offer the Detailed Data Network Analysis our clients, which includes a comprehensive Security Assessment. His skills include: LAN/WAN architecture, Windows NT/2000/XP, Project Management, web application analysis/design, security, and IT strategy.

Professional References

Todd Blank, CTO
IPOutlet

(614) 207-5853

Mark Hoover, Senior Vice-President
Robbins Inc.

(513) 871-8988

Project Staff

TTG's project staff consists of project and customer service directors to oversee and implement orders as directed by the project consultant and client. The project directors follow through all trouble calls to resolution and document service calls and billing errors.

TTG has available numerous project consultants as needed. These consultants represent TTG regarding specifically designed projects on an as-needed basis. TTG staff resources are extensive.

TTG project and administration staff invests numerous hours in ongoing training and education for new and existing telecommunication and data technologies. Only through this ongoing commitment to further education can the TTG staff remain competent and prepared to develop and take advantage of strategic opportunities for its clients.

Gail Belair- Administrative Assistant

John Hunter- Senior Advisor

CLIENT PROFILES

Dublin Schools

TTG has been managing the day-to-day telecommunications needs for Dublin School's 20-location district since 1994. TTG performed a DNA for the district and provided the district with substantial savings opportunities as well as a long-range technical strategy for the district's voice and data needs.

In 1996, TTG designed, prepared and distributed an RFP on behalf of the district for a private voice/data network and began installation of the network at the end of the year. The network implementation included the replacement of all phone systems within the district and a complete network providing connectivity to and from all locations.

The network has a unified dialing plan; all the larger facilities were upgraded to digital trunking for local services; direct dialing to all users was instituted; and all locations have access to a centralized voice mail system with message waiting lights over the network. The network was completely installed and fully functional by spring of 1997.

West Shell/Coldwell Bankers Realtors

TTG has performed a DNA and Special Project work for West Shell/Coldwell Bankers (Coldwell) since 1996. TTG manages over 30 realty offices through out the tri-state area surrounding Cincinnati, Ohio, for which we oversee most aspects of the day-to-day telecom functions throughout the corporation.

Through TTG's efforts, Coldwell realizes significant monthly savings as well as enjoys the enhanced benefits of a telecom network that has been refined and restructured to increase the quality of service provided to both internal and external customers.

In 1996, Coldwell Bankers acquired West Shell Realtors. TTG managed the merger process of over a dozen realty offices in a 90 day period, including: negotiating Centrex contracts, disconnecting old services, recommending and overseeing proper configuration and installation of new local, LD, and equipment services, while trying to provide as seamless a transition as possible for the customers and employees.

Findlay Ford

TTG was retained to perform a network analysis of Findlay's telecommunication operations as they pertained to their new car, used car and remote location functions. Findlay Ford is the nation's largest Ford/Lincoln Mercury dealer and handles a very large volume of call traffic.

TTG provided Findlay Ford with network and equipment recommendations, which included the replacement of their existing phone system. Findlay Ford implemented a new phone switch that included integrated voice mail, DID, and local digital service as well as the ability to utilize a T-1 to their used car lot and a long distance T-1 to their LD carrier of choice. TTG designed a network solution that afforded Findlay Ford the opportunity to network its used car lot to the new phone system via a local T-1 which gave the used car lot the full functionality as the mail location, fully transparent to callers.

Ruscilli Construction

TTG was hired to complete a DNA of Ruscilli's telecommunications network. The study revealed improper utilization at nine facilities running through the telephone equipment. Programming changes in the equipment allowed for line reductions, saving Ruscilli 25% on the current cost of facilities.

TTG also discovered Ruscilli was being charged for several circuits that were not in service. TTG recently completed the refund documentation necessary to obtain a \$13,500 refund from Ohio Bell.

The network design was completed by negotiating new long distance contracts on behalf of Ruscilli. TTG staff coordinated all work and designed the network programming.

North Central Mental Health Services

North Central Mental Health Services (NCMHS) is a mental health organization providing mental health services from nine locations in Central Ohio. Services include, but are not limited to Suicide Prevention, Drug and Alcohol Rehabilitation, and Mental Health Services.

TTG designed a network to provide a system wide 4-digit dialing plan and distributed voice mail throughout the network to all 300 users via a single voice mail 8-port route. System and network specifications were written, bid, evaluated, awarded and implemented under the oversight of TTG staff. The network incorporated T-1, 4-wire E & M TIE lines, and 56 K data lines.

The installed network reduced overall company communication costs by \$4,000 per month, reduced traffic backlog at the main location's switchboard, and allowed all locations to utilize the voice mail.

REFERENCES

REFERENCES

COMPANY

SERVICE

Dublin Schools Larry Faulk, Coordinator of Technology Advancement (614) 764-5913	Detailed Network Analysis Private Network Special Projects
City of Upper Arlington Scott Braskett, Network Administrator (614) 583-5205	Detailed Network Analysis Detailed Network Analysis Equipment Procurement
North Central Mental Health Sue Thompson, Purchasing & Facilities Supervisor (614) 299-6600	Detailed Network Analysis System Administration Equipment Procurement
City of Westerville Mike Wasylik, Assistant City Manager (614) 901-6404	Detailed Network Analysis Equipment Procurement System Administration
South-Western City Schools Michael Bobby, Quality Assurance Manager (614) 801-8500	Detailed Network Analysis Equipment Procurement System Administration
Marion General Hospital Steve Brown, Chief Fiscal Officer (740) 383-8650	Detailed Network Analysis Equipment Procurement System Administration
Highlights for Children Bill Hazen, Chief Information Officer (614) 487-2745	Detailed Network Analysis System Administration
The Shelly Company Roger Start, Chief Financial Officer (740) 246-1117	Detailed Network Analysis System Administration Special Project
City of Gahanna Dottie Franey, Secretary to Director of Public Services (614) 471-6917	Detailed Network Analysis

APPENDIX