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White Paper:

Advantages of Using TerrAlign *e*Map v2.0, The Internet-Based Territory Alignment System, to Help Manage Field Organizations

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eMap

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Abstract

The TerrAlign Internet Alignment System, or TerrAlign *e*Map, is a next generation product designed to meet the information flow needs of field organizations during and after alignments. *e*Map uses a Web interface that empowers field personnel with interactive mapping, territory modification, map printing and report generation capabilities. It also serves as a management channel for updating sales representatives with the latest alignment changes and account information.

This document outlines the business advantages of using TerrAlign *e*Map in a field organization, including:

- Where TerrAlign *e*Map contributes in the alignment process.
- Why TerrAlign *e*Map provides the best method for communicating alignment changes.
- How TerrAlign *e*Map protects proprietary company information from unauthorized viewers.

Table of Contents

Introduction 5

TerrAlign *eMap*'s Role in the Alignment Process 6

- Trends in the alignment process 6
- The current alignment process 6
- Limitations of the current alignment process 7
  - Alignment documentation 7
  - Management of on-going alignment modifications 9
  - Information and logistics requirements of major realignment sessions 9
- TerrAlign eMap design goals 9

Using TerrAlign *eMap* 11

- TerrAlign eMap capabilities 11
  - A Complete Solution 11
  - Maps 11
  - Realignment 12
  - Reports 13
  - Controlled Access 13
  - Security 14
  - Scalability 14
- Surmounting current alignment process limitations 15
  - Alignment documentation 15
  - Management of on-going alignment modifications 15
  - Information and logistics requirements of major realignment sessions 16
- Technical information 17
  - Required for deployment 17
  - Back-End 17

The Future of TerrAlign *eMap* 19

- Potential new alignment features 19
- Other business applications 19

Conclusion 20

Introduction

In today's world of instant access to data, successful companies consider getting the right information to the right people a necessity rather than a luxury. For field organizations constantly trying to surpass competitors, the right information is real-time geographic and account data combined with interactive mapping. The right people are the field managers and sales representatives.

Just a few years ago, decisions made in corporate headquarters navigated a slow and uncertain path to those charged to implement them. Now, the real-time information flow delivered by the Web has sped up the business cycle. It has given managers unprecedented abilities to analyze situations and effect change in their organizations.

With this new managerial model in mind, The TerrAlign Group has conceived and developed a Web application that brings fresh geographic and business information to the sales force or service organization on their own schedule. This Web technology is set to replace the need for paper maps and stacks of reports that are often rapidly outdated and may prove cumbersome to use. It fills a critical niche in information delivery and territory management action by getting the most recent ZIP Code or account level data to the field in a minimum of time.

With this technology sales representatives are able to visualize the geography and accounts assigned to them. They also have access to all business data from the maps and from preformatted reports.

Sales managers can use the technology to access the same data, evaluate the territories under their report, and modify the configuration of these territories.

TerrAlign *eMap*'s Role in the Alignment Process

Trends in the alignment process

Field organizations have, for some time, realized the need for aligning field personnel in a way that maximizes their productivity. It is widely accepted that how territory boundaries are drawn can have a large effect on the bottom line by reducing costs, improving efficiencies, and increasing market share.

Since the 1980s, companies have used the technology TerrAlign pioneered, desktop-based territory optimization, to turn territory realignment from a chore to a strategic weapon. Targets and geographic building blocks are assigned to territories with greater precision. The realignment process is streamlined.

The current alignment process

The sales force realignment process recommended by TerrAlign is directly related to data collection and strategic analysis processes (see Figure 1).

In turn, the sales force realignment process results in the implementation of a new alignment that will feed back into the next iteration of the overall process.

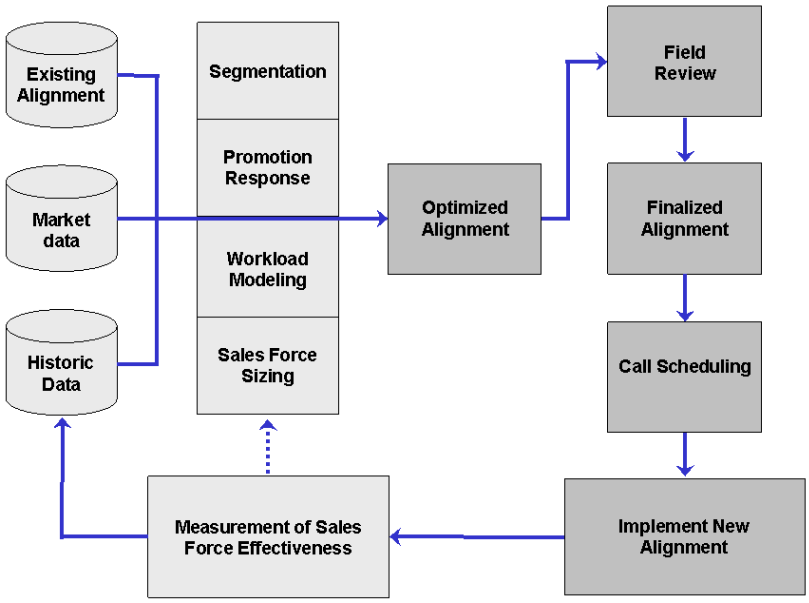


Figure 1. The TerrAlign Realignment Process

Whether the various steps outlined in Figure 1 are completed by a company's internal personnel or by an outside consulting organization, such as The TerrAlign Group, the major challenges to the efficient implementation of the new alignment are field buy-in and proper communication of the alignment to the field organization.

Field buy-in is largely improved if field management, such as district and region managers, are directly engaged in the process and given an opportunity to fine-tune the territories in the geography they manage. Their experience and knowledge of the field, combined with the TerrAlign alignment process, will yield not only an optimal alignment, but an alignment tailored to a company's unique position and personnel.

Once field management and the company leadership have signed off on a new alignment, it is critical for it to be clearly communicated to the personnel in the trenches. Hard copy maps and reports, often coupled with national or regional sales meetings, are currently the typical way to communicate a new alignment to the field.

Limitations of the current alignment process

While the amount and quality of data available, the explosion in computing power and the refinement of geographic analysis have made the alignment process easier and more effective, some limitations still exist. They relate to three aspects of the process.

"The current method of communicating new alignments suffers from several drawbacks."

- Alignment documentation
- Management of on-going alignment modifications
- Information and logistics requirements of major realignment sessions

Alignment documentation

The current method of communicating a new alignment to the affected field force is to assemble a hand-off package for every representative and manager. The hand-off packages for representatives usually consist of a territory map coupled with a report or combination of reports. The hand-off packages for managers usually consist of a copy of all the territory maps and reports, a map of the manager's area, and specialized management reports.

Recipients of these hand-off packages often find them of only limited use. This method of communicating the all-important new alignment suffers from several drawbacks:

- Static – Hand-off packages are typically distributed after major realignments. Yet, territory alignments usually evolve, even over short periods of time. Field managers often do not receive updated documents to help them keep up with subsequent modifications to the alignment.

- Rigid – Maps and reports are designed to fit the needs of the majority of users. Yet, in many cases individual representatives and managers may need to see maps and reports with different levels of detail, or a different structure.

- Turnover – For field forces, turnover is a fact of life. When a new representative is assigned to a territory, he or she should logically receive the same information the previous rep benefited from. Synchronizing new maps and reports with the documents held by other reps in the district can be a challenge in itself.

Management of on-going alignment modifications

The current alignment process illustrated in Figure 1 focuses on major realignment events. On-going modifications to the alignment are typically managed in a more informal fashion, often overlooking the geographic dimension of the alignment. This limits the field organization's ability to adapt to changing market conditions. A truly dynamic alignment process would allow the easy regular fine-tuning of territories, districts and regions.

Information and logistics requirements of major realignment sessions

In the current realignment process, first-line managers are typically invited to review and fine-tune a proposed optimized alignment. These individuals are typically very knowledgeable about the geographic and business profile of each territory they oversee. Yet, at the time when they are called upon to make important decisions about the make-up of these territories they may lack some specific helpful information. Oftentimes this is due a lack of practical vehicle to exchange information with representatives.

> "*The TerrAlign Group set out to remedy the limitations of the current realignment process.*"

These activities are best executed in joint sessions during which several neighboring managers work on the geography they are familiar with. With their peers present they can address alignment issues that affect more than one district. Region managers and other members of the sales management team are also required to participate in these sessions. However, in today's business environment, companies seek to reduce the need to pull so many resources away from their regular activities.

TerrAlign *eMap design goals*

The TerrAlign Group set out to remedy the limitations of the realignment process by developing TerrAlign *e*Map. The overall objective of this interactive system is to help companies become more responsive to a dynamic marketplace.

The design parameters for TerrAlign *eMap* have been set as follows.

- Powerful – The product needs to combine the latest communications and mapping technologies.
- Flexible – The application must be easy to upgrade and deploy to a large number of users.
- Easy, intuitive interface – All personnel must be able to use this tool with little to no training.
- Portable – This tool must always be accessible to personnel.
- Customizable maps – Field personnel must have the ability to see a map of his/her geography with as little or as much information as he or she deems helpful.

- Customizable reports – A central administrator must have the ability to load the information that he or she deems helpful. Field personnel can then create reports from that information.

- Controlled access – Only those individuals with responsibility over certain geography can view the data corresponding to that geography.

- Tight security – No person or company with malicious intent can intercept proprietary company information.

- Scalable – This tool must be able to grow with an organization without significant performance degradation.

- Reliable – The infrastructure must be available to field personnel when they need it.

- Realignment capability – A manager must have the ability to make small numbers of changes to the geography in his/her responsibility.

- Easily updateable information – Alignment and account data must be accessible to a trained, central administrator for easy updates.

The TerrAlign *e*Map system has been designed to meet and exceed these specifications.

Using TerrAlign *eMap*

The TerrAlign *e*Map system is a Web-based, territory alignment application designed to give end users quick access to an organization's most up-to-date alignment information. Users can access TerrAlign *eMap* using any Internet connection and a standard Web browser installed on their computers.

TerrAlign eMap *capabilities*

Although The TerrAlign Group has established a complete set of objectives for TerrAlign *eMap*, the release of the application will follow a step-wise progression in order to ensure that targeted features will be effectively delivered. The following features are supported in TerrAlign *eMap* v2.0.

A Complete Solution

TerrAlign *eMap* is closely integrated with TerrAlign's desktop application, TerrAlign 4. TerrAlign 4 is a full-featured territory optimization and alignment software. The two products share a common technology platform and file format.

Alignment files can be directly transferred between TerrAlign *eMap* and TerrAlign 4. In most situations TerrAlign 4 is used to construct alignment datasets, optimize territories and complete major maintenance work. Alignments are then uploaded to TerrAlign *eMap* for review and possible fine-tuning by field users. Alignments are downloaded back to TerrAlign 4 for review and approval.

> *"*TerrAlign *e*Map *[has] a powerful feature-set that fully leverages the maps and reports it provides."*

TerrAlign 4 includes all administration tools for TerrAlign *eMap*. Creating user IDs, setting authorization levels, assembling map layers available to TerrAlign *eMap* users, and determining data fields displayed in TerrAlign *eMap* information windows are tasks completed through TerrAlign 4.

Maps

TerrAlign *eMap* enables each end user to view an interactive map of his or her territory, district or region.

Users can select an area of focus within the geography they are authorized to access. District managers may decide to view all territories in their district, or a smaller group. Region managers may view territories for one or more districts, or in selected groups.

Additionally, managers may view the geography in the area of focus shaded by territory, district or region.

Users can navigate the map by zooming in or out. They can also utilize a grabbing tool to center the view on various portions of the geography. They can choose to include various overlays, such as states, roads, and territory boundaries and decide whether to label each layer.

Users can access the information corresponding to each individual unit (ZIP Code or account) by clicking directly on the unit in the map. TerrAlign *eMap* supports multiple selections and displays the relevant data in a dedicated information window. In addition, a legend box displays the color-coding for each territory on the map as well as the total amount of each attribute by territory (or district, region if so selected).

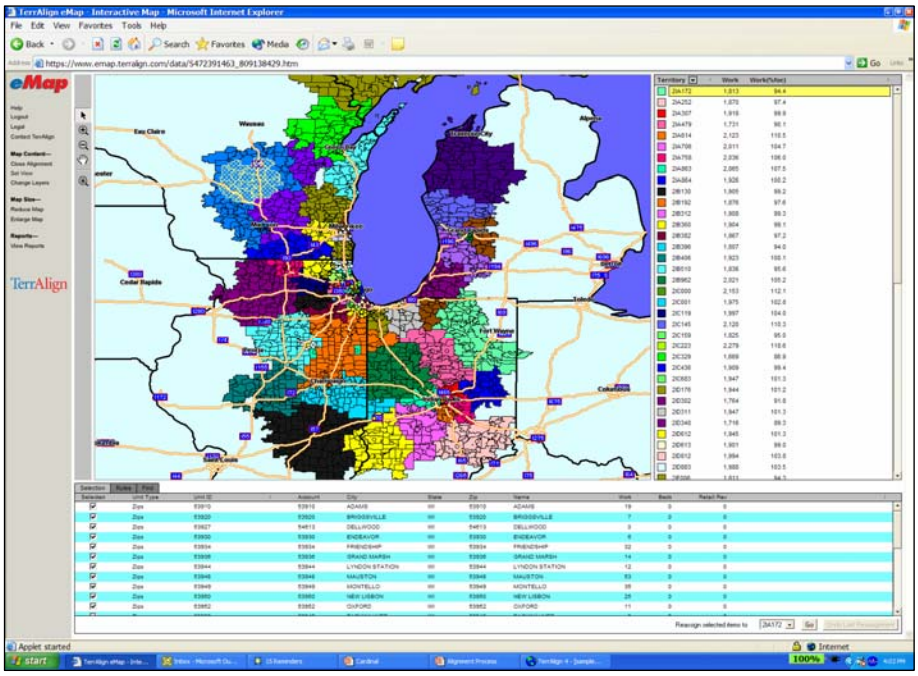


Figure 2. Sample territory map

Map printing

Users can print the current map window directly to a connected printer or as an Adobe Acrobat file (if the proper Adobe Acrobat version is installed on their PC). By selecting different views they can print individual territory maps, district or region maps, or maps of specifically selected areas.

Realignment

A company's business is always changing as is the marketplace around it. TerrAlign *eMap* has been designed to help cope with those changes and better position an organization between alignments.

TerrAlign *eMap* gives field management the opportunity to make changes to alignments and have those changes propagate throughout the organization. If they are authorized to do so, users can select units (ZIP codes or accounts), individually or in groups, and reassign them between territories. Changes are automatically saved and can be undone step-by-step.

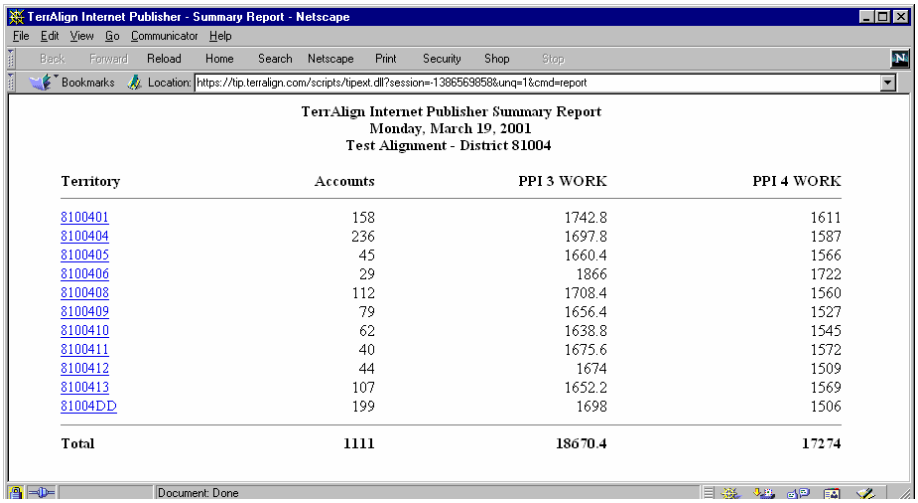
This capability allows field managers to apply and evaluate alignment modifications within the geography they supervise. If they judge that such modifications improve the alignment, they simply leave them in the system for future review at headquarters.

Reports

"Reports can adapt to the needs of the day."

Users may create a summary report with attribute columns predefined by the site administrator. The summary report lists the sum of each numerical attribute by territory for whatever geography the user has selected and has been given access permission.

The territory numbers in the "Territory" column are dynamic links to detailed reports. By clicking on territory numbers users are able to view an assignment report. This report lists all the accounts or ZIP Codes by territory, as well as their value for various attributes (predefined by the site administrator).



TerrAlign Internet Publisher Summary Report
Monday, March 19, 2001
Test Alignment - District 81004

Territory	Accounts	PPI 3 WORK	PPI 4 WORK
8100401	158	1742.8	1611
8100404	236	1697.8	1587
8100405	45	1660.4	1566
8100406	29	1866	1722
8100408	112	1708.4	1560
8100409	79	1656.4	1527
8100410	62	1638.8	1545
8100411	40	1675.6	1572
8100412	44	1674	1509
8100413	107	1652.2	1569
81004DD	199	1698	1506
Total	**1111**	**18670.4**	**17274**

Figure 3. Sample district summary report. Territory numbers are active links to detail assignment reports.

Controlled access

TerrAlign *eMap* allows permissions to be set so that only certain field personnel can access certain data. For example, a representative may be given access to view a map and report of only his or her territory. Similarly, a manager may be given permission to view only those maps and reports in his or her geography.

Additionally, each user may be given a "View" or "Modify" access permission.

Permission levels may be changed at any time by the administrator.

A login page that requires both a login name and password enforces these permissions. The password is generated initially by the site administrator. Users can change their password after initially logging in.

Security

Ensuring that proprietary company data remains protected is a priority in TerrAlign *eMap*. The application uses a variety of means to ensure that unauthorized users, from the curious and slightly computer savvy to the major league mischief makers with a great deal of technical acumen, do not get access to transmitted or stored data.

> ***"Ensuring that proprietary company data remains protected is a priority in e*Map."**

All data, Web, and map servers can be hosted by The TerrAlign Group behind a sophisticated, high-end firewall overseen by a senior network administrator. All data transmission in TerrAlign *eMap* is encoded securely using 128 bit encryption – a level of encryption nearly impossible to break. Additionally, other security measures have been taken. For example, TerrAlign *eMap* utilizes hashed passwords to safeguard against password theft.

Scalability

From its inception, TerrAlign *eMap* has incorporated the idea that field forces often grow or evolve. For this reason, TerrAlign *eMap* employs a structure that allows it to adjust to the organization's size and structure. If more capacity becomes necessary, TerrAlign *eMap* can easily support the additional hardware without changes to its underlying software. Those changes will be transparent to the field.

A field organization can also grow in complexity. Some companies have multiple field forces selling or servicing a variety of products. TerrAlign *eMap* gives managers who may have responsibilities over personnel in different alignments the ability to choose among every alignment. Likewise, all field personnel in a company, no matter which organization they are a member of, can access the proper alignment from a single page. This makes TerrAlign *eMap* easy to administer in complex field organizations.

Surmounting current alignment process limitations

Current alignment practice has some drawbacks in various stages of the process (“Limitations of current alignment process,” page 7). Version 1.0 of TerrAlign *eMap* primarily addresses the inadequacies of the current alignment documentation packages. TerrAlign *eMap* accomplishes this with a powerful feature-set that fully leverages the maps and reports it provides.

Alignment documentation

- Dynamic – Instead of printing thousands of pages of maps and reports every time changes are made, only a few files need to be uploaded into a computer. When field personnel need account or alignment data, they have access to the most current information.

- Flexible – Rather than relying on a one size fits all template, TerrAlign *eMap* gives users the power to look at a map of their territory, district or region displayed any way they deem necessary. TerrAlign *eMap* eliminates maps that are discarded because they have too much information to be readable or too little information to be helpful.

  TerrAlign *eMap* also gives users the ability to generate reports on demand. Those reports are easily customizable by the administrator. If there is a need identified for an additional column of data, or for less data, these can be accomplished by one person uploading the necessary files. In this way, reports can adapt to the needs of the day.

- Turnover – To equip new field personnel with information on their geography, companies only need to give them access to maps and reports via the Internet. Similarly access privileges may easily be revoked for departing personnel.

> ***“Companies will gain speed and flexibility in adapting to market and organizational events.”***

Management of on-going alignment modifications

In the same way that TerrAlign *eMap* is much more efficient and timely to communicate a new alignment, so too is TerrAlign *eMap* more efficient and timely when communicating proposed alignment changes to field management, or allowing field management to implementing changes directly.

Headquarter-based personnel are responsible for refreshing the alignment dataset when new business or geographic data is available.

New versions of the national alignment are installed on the hosting server and immediately available to the field for review. Field management has more time and better tools to evaluate the proposed changes and possibly implement changes directly. Field personnel has an opportunity to observe the impact of new data on individual territories. Many other events can trigger the reassignment of units on a temporary or permanent basis: vacancies, special promotional actions, tests, etc.

Companies gain speed and flexibility in adapting to market and organizational events. The quality of alignment increases because all participants have immediate access to the same data, including geographic information.

Information and logistics requirements of major realignment sessions

With access to the right information being just a matter of creating the right authorizations all members of the sales organization have improved opportunities to exchange information, prepare for realignment sessions and make better decisions.

In some cases TerrAlign *eMap* has the potential to replace some of the joint sessions currently required to allow district and region managers to fine-tune an alignment. One can easily envision situations where moderate realignment needs can be handled on-line without taking managers away from their regular activities for more than the necessary amount of time.

Technical information

The TerrAlign Group supplies the hardware and geographic data necessary to run TerrAlign *eMap*.

Required for deployment

To deploy TerrAlign *eMap*, end users must have:

- A computer that can access the Internet
- A Web browser, either Netscape Navigator or Microsoft Internet Explorer

No other software or hardware is necessary. Broadband Internet access is not required but does improve the performance of the system.

To deploy TerrAlign *eMap*, companies need:

- A list of authorized user names, with area assignment and view/modify privilege levels.
- A table with account name, any attribute information, any address information, and either lat/longs or ZIP Code.

Back-End

TerrAlign *eMap* may use a number of different computers and equipment in order to process and transmit data requests quickly and securely. In typical implementations the TerrAlign Group takes advantage of this capability by using multiple servers to balance the load and speed up processing time. The TerrAlign Group uses a file server, a Web server, and multiple map servers to process requests. The multiple server architecture also provides easy scalability ensuring that all requests can always be processed.

Additionally, The TerrAlign Group routes all Internet traffic through a firewall as an added protection measure against malicious and unauthorized users.

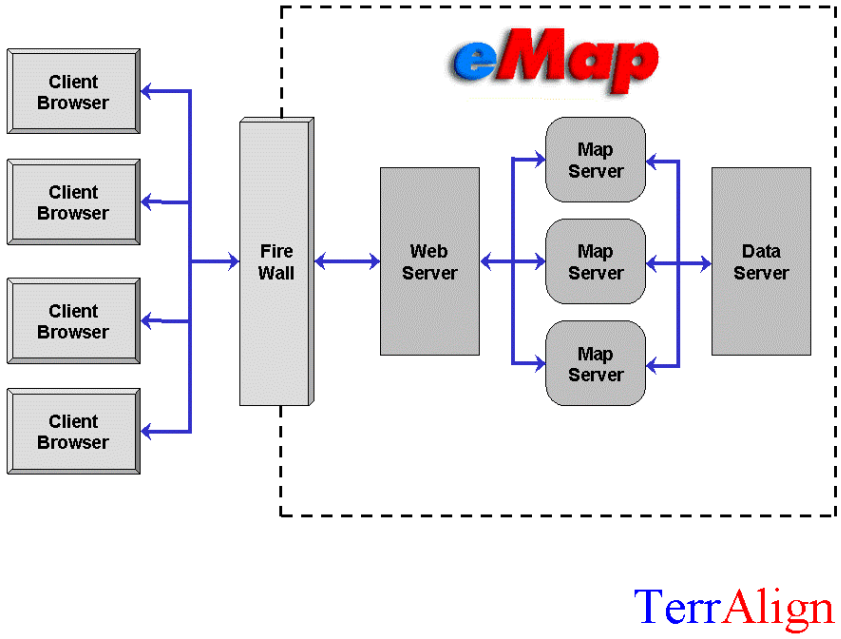


Figure 4. *e*Map schematic for an installation hosted by The TerrAlign Group.

With a multiple server architecture and state-of-the-art hardware, speed is determined most by the speed of the end user's Internet connection. A 56K modem is the minimum recommended connection.

The TerrAlign Group has multiple T1 lines to provide fast transmission speeds and high-end file, map, and Web servers to quickly process requests.

The Future of TerrAlign *eMap*

Since offering the first PC-based territory optimizer in 1987 the TerrAlign Group has regularly produced significant innovations in territory alignment technology. Version 2.0 of TerrAlign *eMap* followed version 1.0 with the addition of reassignment tools. From TerrAlign *eMap*'s beginning design stage, several major features have been planned and designed into the base program that will progressively augment the value of the system. This comprehensive structure provides a rich framework for product growth.

Potential new alignment features

Several improvements and additions are currently under consideration or in early development stages. TerrAlign representatives may provide additional information about these features.

> ***"Several major features have been planned…that will progressively augment the value of the system."***

Other business applications

TerrAlign *eMap* is the ideal platform to centralize and communicate sales and marketing information, as well as the results of analyses on this data, in all situations where the data or analysis has a geographic or spatial dimension. Maps, in a variety of styles, are a very powerful interface to present data at the individual account level or any geographic aggregation level, either in direct or cross-tabulated form. A variety of specific analytical applications may be developed by the TerrAlign Group to take advantage of TerrAlign *eMap*'s data delivery capabilities.

Conclusion

The TerrAlign Group has designed and built TerrAlign TerrAlign *eMap* to be a superior tool for aligning field territories fast and efficiently while producing the highest quality solutions. By employing Web technology, TerrAlign *eMap* allows organizations to dramatically cut the time and expense of promulgating and incorporating alignment changes. This leads to a more efficient roll-out of alignments and a greater ability to maintain territories between major realignments.

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