



CLABBY ANALYTICS

## Case Study

### Tieto: Opening New Markets for Mainframe Computing

#### *Executive Summary*

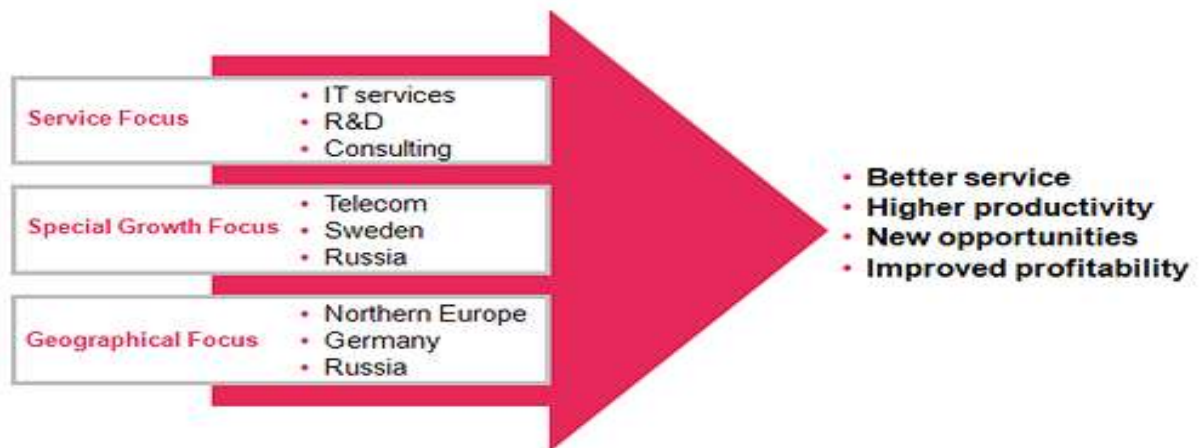
Tieto Corporation is a large IT service provider. This company knows how to structure business process flows — and thoroughly understands how to use technology to solve business problems. Tieto operates distributed systems environments using many different vendors' server solutions — and it operates mainframes. In the mainframe world, Tieto is concerned about replacing its aging mainframe staff; and Tieto also wants to grow its mainframe business. To address a possible mainframe skills shortage, Tieto is growing a mainframe skills base in the Czech Republic. And by so doing, Tieto is positioning to expand its mainframe business while also lowering its operational costs.

#### *Introduction*

Tieto Corporation is based in Helsinki, Finland. Founded in 1968 as Tietotehdas Oy, the company combined with Enator AB in 1999 to become TietoEnator — recently shortened to Tieto. By combining with Enator — and through a series of strategic acquisitions, Tieto has grown rapidly (its revenues now exceeded 1.706 billion Euros — and the company now has approximately 17,000 employees). Although Tieto serves customers in almost 30 countries, its primary customer base can be found in Northern Europe, Germany, and Russia. Its areas of expertise include telecom, forest, oil and gas as well as digital services.

To continue its rapid revenue growth, Tieto knows that it needs to expand its reach beyond Northern Europe and Germany into emerging growth countries. And Tieto knows it also needs to grow its market share in its strategic target markets — particularly in telecom. Tieto's strategy (see Figure 1 - below) reflects these priorities.

***Figure 1 — Tieto's Growth Strategy***



Source: Tieto, June, 2010

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One of the ways that Tieto thinks that it can expand its service offerings in emerging growth countries is by offering mainframe hosted services. Unlike many other IT service providers, Tieto has no bias in favor of the mainframe, nor against it. They recognize the mainframe for what it is: a solid, reliable, secure general purpose computing system that excels in batch and transaction processing. And they see growth opportunities — particularly in manufacturing and government industry segments — in emerging growth geographies. Further, Tieto knows that using a centralized mainframe environment can forestall the need to build more data centers (mainframes have a much smaller “footprint” in a data center than distributed server farms); and Tieto knows that it takes fewer people to manage mainframes as compared with the numbers needed to manage distributed computing environments.

But Tieto also sees a potential problem related to expanding its mainframe service offerings: a pending skill set issue related to its own mainframe management staff. Many members of Tieto’s mainframe staff are approaching retirement age — and Tieto is concerned about replacing these mainframe managers. To address this issue, Tieto has applied its own innovative thinking — just as it would do for its own customers. Instead of turning to a mainframe technologist to figure out what to do, Tieto brought in a business analyst with no previous mainframe experience — and tasked him with finding a solution to this potential retirement problem.

In this *Case Study*, *Clabby Analytics* describes why Tieto intends to stick with mainframe computers; how Tieto intends to grow its mainframe business; and how Tieto intends to deal with a potential skills shortage that may occur within its own mainframe organization.

### *Meet Juha Parnisto, Director of High Availability Systems at Tieto*

One of the best places to conduct end-user research is at technology events such as IBM’s PULSE, EMC World or CA’s CA World. At these events, it is easy to approach end-users and ask them what kinds of challenges that they are facing; how they’re handling those problems; and what they think of the new technologies that are often shown at these events.

*One of the big problems in conducting this type of research, however, is that many IT managers and administrators prefer not to be interviewed “on-the-record” — largely due to concerns about having to clear what they have to say through their corporate legal departments. To allay this concern, Clabby Analytics has a policy — we conduct interviews and write case studies. We then give our write-ups to our interviewees who can then clear those case studies with their legal departments. If legal says “no”, we do not publish. If legal says “yes”, we publish. This approach seems to get us more case studies than other IT research firms of our size.*

At CA World 2010 in Las Vegas, *Clabby Analytics* had the honor to interview Mr. Juha Parnisto, Tieto’s Director of High Availability Systems —and the person responsible for Tieto's mainframe environment. During the conversation, *Clabby Analytics* learned that:

- Mr. Parnisto came to Tieto as a business consultant (he had no previous mainframe experience). He was chartered to find ways to increase mainframe business as well as to find ways to operate his mainframe environment more cost efficiently.
  - He quickly identified that mainframe growth in Finland and Scandinavia is static (these are mature markets with few very large enterprises — and the largest enterprises already run mainframes). So, to increase Tieto’s mainframe business, Mr. Parnisto determined that he must look outside of the Northern

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Europe marketplace for mainframe growth opportunities. This led Mr. Parnisto to conduct market analysis on Eastern European and Russian markets — emerging markets that hold plenty of growth potential for mainframe services.

- Mr. Parnisto was also chartered with helping contain operating costs — and this includes costs for building new data centers. He indicated that he is well aware that mainframes can do the work of hundreds of x86-based servers — and is actively weighing costs for hosting of Linux virtual servers on his mainframes as a means to forestall the need to have to build new data centers to house x86 servers.
- To handle the previously identified, potential mainframe skill set issue (due to pending retirements in his mainframe management organization), Mr. Parnisto has found that he can readily rebuild his mainframe management using skill sets that Tieto has in the Czech Republic.
  - Colleges and universities are now teaching mainframe curricula — and due to the sophistication of the tools and utilities that reside on mainframes, students who are hired to manage mainframes can manage from their own home towns remotely; and,
  - Further, Mr. Parnisto observes that these students generally stay near their friends and families — meaning that once they've been hired, they tend to stay in mainframe management working for the same employer (Tieto) for extended periods. (Mr. Parnisto indicated that it may be cost effective to move some of his mainframe operations to Eastern Europe to capitalize on its rapidly growing IT labor pool).

Each of these points deserves closer scrutiny.

### ***Putting a Business Analyst in Charge of Mainframes***

Mainframe computing is largely misunderstood within the ranks of IT managers as well as at the business executive level. Many organizations have a strong leaning toward distributed computing environments where distinct application servers communicate with each other and with storage devices over networks — so the idea of using a centralized “main frame” environment that can drive thousands of virtual servers seems foreign to these distributed-biased managers and executives.

***Tieto is in the IT professional services business — and shows no bias toward one system type over another. The company runs several large data centers in Northern Europe — and those data centers run various server types including x86-, Itanium-, POWER-, UltraSPARC-, and mainframe-based servers. Tieto clearly knows the differences between each architecture, and the company knows that certain applications run particularly well on distributed x86 servers, while others run best on scale-up Unix or mainframe servers. And many of Tieto's customers also understand the differences between these servers, and insist that their applications be hosted on mainframes to meet quality of service, security, and high-availability requirements.***

As an IT professional services supplier, one of the areas that Tieto focuses on is keeping IT costs under control. Inefficiency creates waste — and waste reduces profit margins. So Tieto closely scrutinizes what it spends on systems, software, and on data center operational costs — constantly looking for ways to reduce its IT spend while increasing IT services. Tieto is

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also aware that if it uses advanced mainframe management software, it can automate tasks usually performed by humans, and thus require fewer people to manage its mainframes (or it can use less-skilled and therefore less costly individuals to manage its mainframes).

With a charter to help reduce mainframe costs as well as to deal with a pending mainframe skills issue, Mr. Parnisto analyzed his mainframe situation. And, what he has found is that:

- He can replace aging mainframe managers with less costly labor from Eastern Europe (this concept is known as “insourcing” because these new mainframe managers would work for Tieto, albeit at another location outside of Northern Europe).
- He may be able to reduce his company’s IT plant costs for building other data centers if he uses a mainframe to host Linux virtual servers. Further, mainframes use far less energy than equivalent distributed server farms — so additional savings may be found by hosting certain applications on mainframes as opposed to x86 servers. (Note: studies have shown that a mainframe can host @250 Linux virtual servers and use only 12% of the energy that is used by an equivalent number of x86 servers).
- By hosting his mainframe in Eastern Europe, Mr. Parnisto believes he will also be able to land more “local” business in Eastern Europe and Russia, helping him to grow his business accordingly.

*Putting a business analyst in charge of Tieto’s mainframe services organization has helped Tieto avoid internal distributed-system-versus-mainframe battles, and has instead let the company focus on other issues such as how to grow the business as a whole, how to find new customers, and how to increase profitability. More enterprises should follow Tieto’s example.*

### **Replacing Mainframe Skill Sets**

Gartner, the industry’s preeminent information technology research and analysis firm, has published several reports and case studies over the past few years that promote the idea that IT buyers should migrate their applications off of mainframes and move them to other, “more modern platforms”. Part of Gartner’s logic, it appears, is that there is an impending-doom shortage of mainframe managers that is about to occur as elderly mainframe managers retire — so Gartner implies that moving applications to other platforms might ensure the long term viability of enterprise applications on those platforms.

*Clabby Analytic’s* perspective on Gartner’s advice that IT executives consider moving their applications off of a mainframe due to an alleged, forthcoming decline of mainframe skills promotes an “urban legend” (something that makes sense on the surface but has no basis in fact). We have, time and time again, found that:

- Mainframe management skills can be found in abundance in various geographies (especially in India, Brazil, and China). We estimate that there is a pool of 400,000 mainframe-skilled individuals in these countries — and that this number is growing.
- We have also proven time and time again that mainframe skills can be found in “off-the-beaten-path” areas such as in Lugano, Switzerland; Gubbio, Italy; and Fort Smith Arkansas (see our proof-point case studies on Corner Bank, Colacem, and Baldor Electric for examples of this phenomena).
- We have also found many IT organizations that are growing IT management skills from within.

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- Further, we note that in 2005, 10,000 students were taking mainframe courses — that number is now 50,000.

The alleged mainframe skills gap is aggressively being filled. Accordingly, we dismiss Gartner's advice as "ill considered".

*Tieto's approach to solving its pending skills shortage issue combines internal skills growth with insourcing. The company is growing its own mainframe managers — albeit at another location (not in Finland but in the Czech Republic). Tieto has realized that the location of mainframe managers is not a major issue — its mainframes can be managed remotely by a less expensive labor pool. By moving mainframe management out of the expensive Northern Europe labor pool to the less expensive Eastern Europe pool, Tieto has found a way to maintain and grow its resource base while reducing operating costs.*

### **Mainframe Cost Studies**

To Tieto's credit, the company is always looking to find ways to reduce its computing costs. Accordingly, Tieto and HP recently studied how much money could be saved if Tieto migrated away from its mainframe environment. And, as typical of these mainframe migration engagements, Tieto found that acquisition and operational savings could be in the 15-25% range (Tieto has access to certain calculations made by HP which indicate that such savings could be achieved).

*Clabby Analytics generally dislikes mainframe migration cost analysis because the vendors who perform this type of analysis usually have a vested interest (to get a customer to dump a mainframe and move to their platform). These studies do not typically look at business resiliency, quality of service, and security costs — and if they do, they generally do not offer the same service levels as a mainframe.*

It is also noteworthy that IT buyers seem to be *migrating away from* UltraSPARC and Itanium servers, (in Q1, 2010, IBM reported that 117 server or storage customers moved from Oracle/Sun iron to IBM platforms and storage — and that 95 moved from HP servers (total: 212 migrations from other platforms to IBM POWER, IBM z, or IBM x86-based servers).

*Given our negative perspective on competitor mainframe costs analysis, we were not surprised to find that HP found that it could probably reduce mainframe operating costs by approximately 20 per cent. But Tieto also found that the costs to migrate from a mainframe to HPs architectural alternative would take Tieto five years to recover. Although we would love to see whether the system that HP proposed had all of the same features that the existing mainframe environment has, we don't have to see HP's comparison because the end result is that it would make no sense for Tieto to migrate to an alternate platform.*

### *The Nationwide Cost Study*

When discussing mainframe computing with Mr. Parnisto, we were reminded of an interview that we conducted a few years ago with Buzz Woeckner of Nationwide in the USA. Like Mr. Parnisto, Mr. Woeckner was not a mainframe specialist. He, like Mr. Parnisto, entered his company's mainframe department as a business analyst. Mr. Woeckner's big challenges at Nationwide were to reduce acquisition and operational costs for his organization. And, he was also faced with a data center crisis (his organization was running out of data center space and was facing the need to have to build a new data center at a cost of tens of millions of dollars). What Mr. Woeckner was able to do was to migrate many of his division's applications from x86 servers to mainframes running the Linux operating environment. He located 477 virtual Linux servers running on two physical mainframes; and deployed 15

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mission critical applications on those mainframes. His new mainframe environment serves 100,000+ active users every day — and he was able to perform this migration in only 4 months.

As for payback, by Mr. Woeckner's own analysis Nationwide was able to achieve:

- Significantly better TCO (\$15 million savings over 3 years);
  - 50% reduction in Web hosting monthly costs
  - 80% reduction in data center floor space needs; power conservation
  - 50% reduction in hardware & OS support efforts
  - 70% average CPU utilization
- Significant savings on middleware costs (WebSphere, UDB, Oracle)
  - Significantly faster provisioning speed(months →days)
  - Dynamic allocation of compute power
- Capacity on demand; increase/reduce compute power
  - Simple and robust high availability & disaster recovery
  - Leverage 40+ years of resource sharing experience
- Combine best practices from centralized & distributed worlds

*Clabby Analytics much prefers real-world cost analysis to cost research performed by a competitor. But in Tieto's case, even a competitor was unable to prove that it could reduce the cost of computing of a mainframe by replacing that mainframe with its products. The bottom line is that, depending on the service level requirements of applications, mainframes may actually cost far less to acquire and operate than "open system" alternatives.*

### Summary Observations

The fundamental basis for Tieto's business is operational efficiency. The more efficient its IT infrastructure operates, the more profitable Tieto can be. And one way that Tieto ensures that it is operating with utmost efficiency is to take an unbiased view of mainframe computing.

What we liked best about this case study was that Tieto put a business manager in charge of its mainframe computing organization. And Tieto empowered that business manager to take any action that he needed to in order to drive profitability. By impassionedly evaluating his mainframe computing environment, Mr. Parnisto found that he could reduce his operating costs by "insourcing" (hiring remote mainframe managers who reside in other countries, but who work for Tieto). He also conducted cost analysis (performed in conjunction with a mainframe competitor) — and found that it would be too costly and disruptive to move from a mainframe to a competitor's platform. We also liked the fact that he found a way to grow Tieto's business by expanding mainframe services to Eastern Europe and Russia.

From our perspective, more enterprises should follow Tieto's example.

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