

[tieto.com/signaling](http://tieto.com/signaling)

## What's the difference between good and great signaling solutions?

Let us show you 100 great examples.



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Knowledge. Passion. Results.

**tieto**



# Tieto Signaling Solutions makes IT work in a changing industry

You have probably heard it before: converged networks are changing the IT and telecom industry. The key to success is to embrace these changes and turn them into opportunities. In a business world where the stakes are constantly changing, make sure you team up with partners that thrive on change.

We started out in the telecom business in the early 1990s and our track record since then is unparalleled. Don't take our word for it, though: according to our more than 30 market leading customers in signaling, the key to our success is knowing our customers and the telecom business inside out.

Together we have achieved installations in more than 100 networks for all major operators and over 25 000 nodes installed worldwide. Together we drive change and exploit new business opportunities. Why not come along for the ride?

**A leading Swedish technical consultancy- was seeking a Unified Communications & Collaboration solution to improve its employees' ability to work together faster, easier and more efficiently. But a key element was missing: tight integration of fixed, VoIP and mobile telephony to meet their communication and collaboration needs. Tieto and TeliaSonera partnered to provide the customer with a single voice solution.**

#### **Voice is a critical component of UCC**

In today's fast-moving business world, IT and voice solutions must blend together in one common infrastructure, in response to the changing demands. Unified Communications & Collaboration (UCC) solutions are all about exchanging information, both from end-users, and on a machine-to-machine basis. This drives the need for integrated solutions where no part is isolated. Voice is a critical component of UCC, but often the least integrated part of the IT infrastructure.

#### **The solution**

Tieto delivers a UC Gateway that bridges the gap between mobile network and Lync VoIP; telephone numbers and presence can be integrated between the networks. Tieto UC gateway is a flexible solution that can be adapted to most of the mobile networks on the market thanks to Tieto's in-depth knowledge of telecom R&D. Having the UC Gateway makes it possible to integrate telephones from mobile networks with a VoIP number and, at the same time, make presence available between the networks. UC Gateway is located in the mobile network and no adaptation is needed at the company's Lync solution. This makes the solution cost-effective and scalable in the way operators expect from a solution.

#### **The customer was provided a single voice solution**

Tieto and TeliaSonera partnered to reduce complexity in VoIP and fixed telephone networks by providing the customer with a single voice solution. The benefits include easier collaboration, higher voice quality, and helping the customer focus on its core business by having a single service provider interfacing as the development partner. Tieto has a deep knowledge of IT for enterprise, but also a deep relationship with network equipment providers and telecom operators. One crucial component to integrate in UCC is mobile telephony. In partnership with Microsoft, Tieto has

created a unique solution for how to accomplish this. Combining Tieto's knowledge of IT outsourcing with telecom core infrastructure and R&D makes it possible to build a solution that enables new functionality and support enterprises in their UCC journey.

Today, many enterprises are in the process of moving IT/Voice into the cloud. We see that this will be the way of the future, but we also feel there will be need for on-premise solutions for a long time. Regardless of which solution is best for the end customer, Tieto can together with network equipment providers and telecom operators build a solution that delivers value, both today and tomorrow.

“ People can easily adopt new ways of working when the introduction of tools is almost invisible, meaning that there is no revolution in everyday work, merely an evolution. ”

*A leading Swedish technical consultancy*

#### **Results in brief:**

- Mobile phone with fixed number as primary and only phone for 95% of employees
- Voice as a service from TeliaSonera
- IT and Workplace outsourced to Tieto

# What's the key to success in new market segments?

Talk to the IT company with go-to-market partnerships.



**Companies need to integrate new networks and nodes with existing ones in order to reuse existing investments as much as possible. Tieto Gateways makes network infrastructure convergence work.**

#### **Customer challenges**

Our gateway customer is a leading network equipment provider that delivers network solutions to telecom operators world-wide with signaling solutions from Tieto. The customer had a gap in the product roadmap for its mobile media gateway regarding support for ISDN PRA access. The company's own internal development was not able to provide the functionality in time. Operators require an ISDN PRA connection in order to connect PBX equipment to the mobile network.

Our customer risked losing major equipment deals with operators due to the lack of ISDN PRA access to its solution. By introducing the required functionality on time, we helped our customer win several big deals. We also produced and delivered several hundred units to our customer, a much higher volume than expected.

#### **Tieto solutions**

Our gateways can be used either as a "gap-filler" or as a permanent connectivity solution. Based on a complete set of pre-integrated software and hardware components, Tieto not only provides off-the-shelf gateways, but also an efficient option for customised solutions.

We take on full product responsibility, including development, integration and verification, production and supply, maintenance and support, as well as on-site and off-site deployment. We are fully responsible for the maintenance and support of the solution, within a short period of time and according to plan.

#### **We thrive on change**

In a business world where the stakes are constantly changing, make sure you team up with a partner that can keep up. Together with its customers, Tieto has achieved

installations in more than 100 networks for major operators and installed over 25 000 nodes worldwide. We are the partner of choice for leading NEPs and system integrators.

We are used to communicating with network equipment providers and operators and we understand their challenges. We also take on full product responsibility, from development to maintenance, support, and deployment.

Tieto Signaling Solutions offers a complete portfolio of signaling products and services that are designed to secure your network connectivity needs for today and into the future, and we also ensure a secure migration path along the way. Providing gateways for network infrastructure convergence shortens your time-to-market and is probably the best choice for protecting existing and profitable capabilities while enabling the introduction of new services.

“

After reviewing what the market could offer, Tieto was an easy choice. ”

Tieto gateway customer

#### **Results in brief:**

- A "gap-filler" that has helped win several major deals
- Product development in short time and according to plan
- No initial investment from customer
- Problems were solved quickly and efficiently

# How do you combine young and old, small and big?

Meet the perfect matchmakers.



# We know the difference between good and great in signaling

## - Tieto Signaling solution portfolio

Benefit from us having been in the telecom business since the early 1990's and having been the partner of choice for leading NEPs and system integrators. Our reputation for delivering a robust and recognized portfolio of products and services in signaling is to your advantage. To prove it, we have installations in over 100 networks for all major operators.

### **Enjoy really unified UCC**

With Tieto's Unified Communication Gateways

Unified Communications & Collaboration (UCC) drives the need for integrated solutions where no part is isolated. IT software suppliers of vendor specific solutions, such as Cisco, Microsoft and Avaya, need connectivity to fixed, mobile, and IMS networks. Furthermore, telecom operators need to integrate vendor specific solutions, to provide seamless and differentiated UCC services as an extension to their networks.

With a complete offering that covers products, professional services, and UCC cloud service Tieto Unified Communications Gateway makes this easy. By bridging existing and next generation network technologies, we enable interconnectivity between public telecom network and multiple vendor-specific UCC solutions.

With a "true" UCC solution, you can extend your core network infrastructure and capabilities to build new and enhanced communication services, increasing the total value of services delivered to your end customers. Your customers will love you for it.

### **Shortcut your application development**

With Tieto's Application Enablers

New innovative services for converged networks requires development of new applications, which can be time-consuming, difficult, and expensive. Until now. Now you can reduce time-to-market, development cost, and application complexity with Tieto's Application Enablers, a suite of software that facilitates development of applications and adapt to changes.

Tieto's Application Enablers provides high-level, application functionality on top of the Tieto Signaling Solution. With high-level API and interfaces for application integration, the complexity of signaling networks and protocols is hidden for the application developer. If you take care of the business opportunity the application presents, we'll take care of the rest.

### **Ensure connectivity in converging networks**

With Tieto Signaling stacks

Faster, more expensive and more complex. Is this the future of Signaling? Not necessarily. By ensuring connectivity between existing and next generation network technologies, you can make the most of network investments and protect existing profitable capabilities and investments. We have a track record of over 25 000 successful installations worldwide.

Our customers depend on a robust and scalable signaling solution for existing and next-generation IMS, LTE, and 4G network technologies. With off-the-shelf products and a turnkey signaling platform, you can achieve all of this and more. By adding signaling functionality to open platforms, you can build a solid foundation for services and create an ideal basis for migration into Next Generation All-IP Networks.

### **Capitalize on old technologies and exploit new opportunities**

With Tieto Gateways

In today's telecom environment, several network types and nodes need to co-exist and communicate. There is a dire need to integrate next generation networks and nodes with operator's existing infrastructure in order to reuse already made investments.

By bridging existing and next-generation network technologies, you can make the most of network investments. And by combining new and mature services, you can protect existing profitable capabilities.

You can benefit from a family of cost-effective gateway products and connectivity solutions that enable interworking between different types of networks and nodes. Cost-effective and with a short time-to-market, Tieto's gateway solution is an efficient way to create permanent momentum by solving your connectivity needs. Available today.

### **Be proactive and cut costs**

With Tieto Signaling professional services

Telecom operators, network equipment providers, software suppliers, system integrators, and application developers are all facing new demands and challenges regarding how to improve business. You need to be proactive, drive change, analyze, and change the network setup.

You have already decided to take one step ahead of the competition by utilizing signaling solutions and products from Tieto. But since the telecom business is characterized by constant change, you may need assistance to avoid losing your advantage. Tieto's professional services will significantly reduce your operational costs and includes everything from installation, deployment and customization, to expert consultation, signaling network audits and training.

Take advantage of Tieto's solid know-how and in-depth understanding of emerging opportunities today.

At your service - at your convenience for your convergence.

**When InnoPath was developing a mobile activate solution to Tata DoCoMo, a device detection application was required. Instead of developing its own, which would have been time-consuming, costly, and complex, InnoPath chose an application enabler from Tieto. With Tieto's Device Detection Application (DDA) component, based on Stack-in-a-Box (SiaB), InnoPath was also able to add credibility to the solution by providing market-tested and scalable SS7 integration capability.**

#### Signaling functionality is crucial

Tata DoCoMo in India is one of the fastest growing GSM operators in the world, with almost 25 million subscribers in the six months following the launch of its service in June, 2009.

InnoPath is a global leader in the over-the-air customer care space for mobile operators impacting first-call resolution. InnoPath's mobile activate solution, a part of InnoPath's ActiveCare portfolio, enables Tata DoCoMo in India to offer high-margin data services to new subscribers.

InnoPath's ActiveCare portfolio includes frontline care, the ability to update phones in the field, and the ability to identify and properly activate new phones entering the network. InnoPath's mobile activate solution provides a device repository with which to quickly and correctly identify new open-market phones appearing on the network, and the ability to filter, add, and change events in the network before properly configuring the phones for data services.

In a mobile activate solution for Tata DoCoMo, a device detection application was required to detect when a new handset enters the network, allowing it to be automatically configured by the device management application using normal over-the-air-activation mechanisms such as SMS or USSD.

Signaling functionality is crucial in order to quickly meet customers' demands and to achieve connectivity in converged networks. Application development is time-consuming, costly, and complex. Application enablers – a suite of software that facilitates the development of applications and enablers to adapt changes – help reduce time to market, development costs, and application complexity.

#### Tieto's solution

The InnoPath's Mobile Activate Solution to Tata DoCoMo was deployed for the SS7 interface in conjunction with Tieto's Device Detection Application (DDA) component based on Stack-in-a-Box (SiaB).

#### Results

The joint solution impacted time-to-market, and enabled Tata DoCoMo to quickly deploy and operationalize the solution in anticipation of strong subscriber growth.

The partnership also resulted in a rapid time-to-market for InnoPath to integrate with the Tieto Device Detection Application component.



Tieto's Device Detection Application component adds credibility to our solution by providing a market-tested and scalable SS7 integration capability. Our cooperation with Tieto also brought credibility in the eyes of the customer, market timing aligned with Tata DoCoMo's aggressive rollout schedule, and ultimately joint customer success via the partnership.

Dave Ginsburg, VP of Marketing for InnoPath

#### Results in brief:

- Reduced time-to-market
- Reduced development costs
- Reduced application complexity
- Credibility to the solution

# Is there a shortcut for application development?

Yes. Let us show you the way.



**A Canadian operator assumed an error was caused by our customer, a network equipment provider. Our customer turned to Tieto for help. We not only troubleshoot the error; we also explained the situation to the operator. Our customer got off the hook since the end customer, the operator, was fully satisfied with our explanation and could move on with its business.**

#### **Customer challenges**

Downtime must be kept to an absolute minimum when performing upgrades at a customer site. Troubleshooting during a maintenance window can be very stressful without the right competence or experience working in complex networks and with nodes from different vendors.

New concepts introduced by the M3UA IETF standard, for example, are totally different from previous SS7 Sigtran concepts and require a lot of training to both understand and configure.

This can present a major challenge for providers that require knowledge and experience. It can be hard to estimate the entire solution deployment effort and timing. It can also be tricky to answer an operator that asks, for example: “Why is the SMSC delivering a double SMS message?”, “Why is the SIGTRAN association down again?”, “How can the radio network be congested after the installation of your node?” It can be complicated if the problem is on a network level. This is where signaling experts are required, who can analyze and explain and use terms that the operator is used to.

#### **Tieto solutions**

Tieto contributed to a successful deployment of our customers’ entire solution. We completed a smooth and cost-effective product deployment in less time than planned.

We achieved this based on our competence – especially about the SS7 ANSI Standard, to support the onsite deployment of our signaling product Stack-on-a-Card. We know the requirements and expectations that many operators have and we catch new trends within signaling by performing services for different customers in different operator networks.

We are used to talking to operators in a way that builds trust and we know their way-of-working and terminology. We can discuss with the operator side-by-side with you if things get problematic. In this case, we helped our customer to say the right things (that is, use the correct terms to the operator about the problems that appeared and we helped them to explain why.

#### **We maximize our customers’ performance**

Tieto Signaling Professional Services is based on our solid know-how and in-depth understanding of the telecom industry. Rely on us to solve whatever connectivity problem you might have. Using network audits, training, expert consulting, and installation that work through the lifecycle, you may minimize interoperability problems and maximize performance. Tieto’s professional services will significantly reduce your operational costs and includes everything from installation, deployment and customization, to expert consultation, signaling network audits, and training.

“ Tieto helped us to say the right things and use the right terms to the operator – this explanation was totally fine for the operator and we got off the hook. ”

*A leading network equipment provider*

#### **Result in brief:**

- A better and faster understanding of signaling products
- A quick start when using signaling products
- Minimizing interoperability problems
- Minimizing performance problems
- Minimizing downtime when performing upgrades

# How do you explain signaling errors to an operator?

Our consulting services helps you get off the hook.



**When our customer, a worldwide information technology company, needed to upgrade the voicemail system for a leading European telecom operator, Tieto was chosen to deliver the signaling solution.**

A few years ago, the telecom operator started the process of implementing a new voicemail system for its mobile and fixed networks and turned to our customer.

The customer called upon Tieto to upgrade its voicemail system with the latest technology. The task was tangible and challenging: upgrade the mobile network with 30 million mailboxes, and the fixed network with four million mailboxes. Our customer also had an option to deliver, voicemail system to the telecom operator's fixed VoIP clients with approximately 7 million mailboxes.

#### **Tieto's solution**

Tieto delivered an adapted SIP signaling solution that provided easy migration from existing SS7-based platform. Tieto will also deliver an adapted ISUP solution as for the fixed circuit switched network.

- Upgrade existing TCAP solution to the latest software version
- Customization of SIP signaling solution
- Support for installation and deployment
- Training of customers local maintenance and support personnel
- Product deliveries of Signaling for Linux and Stack-in-a-Box system, including capacity licenses

By supporting both traditional and new telecom signaling, our signaling and protocol gateways are important components in next-generation networks and service platforms. They give customers – operators and service providers – the opportunity to benefit from previous investments, by gradually upgrading their solutions.

#### **Benefits**

Tieto's signaling solution enabled our customer to establish a solid foundation for the voicemail system they were about to develop for their customer. Tieto Signaling solutions are designed to accelerate the convergence of networks and services. By providing scalability, global interoperability, fault tolerance, carrier-grade reliability, and APIs on open computing platforms, we provided our customer with a robust and flexible solution for their customer.

“

Tieto is one of the world's leading suppliers of standardized signaling solutions, providing the greatest possible flexibility and interconnectivity between different types of signaling transport networks. ”

Jörgen Tränk, Strategic Product Manager,  
Tieto Signaling Products

#### **Results in brief:**

- Smooth migration from legacy SS7 to SIP signaling
- Enabling of new services. In this case a solid foundation for a voicemail system
- Increased fault tolerance
- Improved carrier-grade reliability
- Global interoperability

# Is there an easy way to ensure connectivity in converging networks?

There sure is. It's about time we connected.





## Tieto in **numbers:**

**#1**

For outsourcing in the Nordic region  
For telecom R&D in Europe

**25**

Years in the signaling business

**26**

Operating countries

**114**

Telecom networks use Tieto Signaling Solutions

**6 130**

Media and telecom experts

**18 000**

IT experts

**25 000**

Signaling installations worldwide

5 6 1 57  
31  
2 4



# The partner of choice.

Tieto is an IT service company providing IT, R&D, and consulting services. With approximately 18 000 experts, we are among the leading IT service companies in Northern Europe and the global leader in selected segments. We specialize in areas where we have the deepest understanding of our customers' businesses and needs. Our superior customer centricity and expertise in digital services set us apart from our competitors.

Tieto provides professional services and solutions for some of the world's leading telecom operators, device manufacturers, silicon vendors, network equipment providers, and media companies. Our team of more than 6 000 telecom and media experts has unrivalled expertise in delivering growth, efficiency, and tangible results.

Together with our customers, we have achieved installations in more than 100 networks for all major operators and over 25 000 nodes installed worldwide. With more than 25 years in the signaling business and a deep application and network knowledge, we are the partner of choice for leading NEP's and System Integrators. The key to our success is knowing our customers and the telecom business inside out.

