

PE Form – Fulup Ar Foll / Philippe Le Foll

Summary of Candidate Qualifications

Fulup Ar Foll is a senior architect and consultant for Sun Professional Services; he has over twenty years experience in the Information Systems industry. Fulup is an expert in distributed architecture, network security and topology, large & highly secure ISPs, and Identity management. He has been employed by Sun Microsystems for almost 5 years.

Fulup holds a masters degree in computer science from French Military School (ESAT Paris). He started his career as a research engineer and worked for 10 years on distributed technologies for the French DoD, focusing on embedded operating systems. This is where he discovered the power of open systems, and during this period he implemented the first French helicopter simulator based on a 3-tier open architecture connected by TCP/IP.

He then worked for Wind River Systems as European director of R&D and led a 20-person team, migrating customers from proprietary hardware/OS to commercial systems, and moving them from monolithic architectures to n-tier architectures. French TGV [Fast Train ~200Mph] is a good example from this period where he moved the Alstom train control system from a dedicated hardware/OS system to VxWorks/HP-UX, building the required drivers for specific I/O boards and re-architecting the application to be n-tier compliant with a clear separation of non-realtime (GUI,database, *etc.*) and realtime parts (brakes, power, *etc.*).

He then came back to research and took a position as associate professor at South Brittany University where he taught internal Web server design, Java, and embedded technology, while keeping a position as a technical director for a small local consulting company specializing in advanced technologies. During this last period he also consulted on JavaOS technology, and this is how he encountered Sun and came to join our company.

Inside Sun, Fulup has spent all of his career within Sun PS. In 1999, he single-handedly started the original Advanced Internet Practice group in Europe, in the void left by the departure of the members of the Internet Architecture Group. While running consultancy engagements for the biggest ISPs in Europe, he developed the business and built a critical mass of business and consultants into the sustainable AIP team in Europe, focusing on major ISPs and banks. When his team was reorganized and split in between PS Geos and Expertise Centers, he choose to roll back to a technical role, and he currently works as Master Architect, primarily around Identity problems within the major European wireless operators.

Fulup's career has always been driven by work on the leading edge of technology, management, and business development. Inside Sun, his career activities have been balanced between customer engagements, technical leadership, business development, and management. Fulup's typical customers

are currently either telcos or banks, and are located within Europe, although he occasionally works out of his timezone (*e.g.*, Mattel/USA, Telstra/AU).

1.0 Excellence and Accomplishments:

Fulup is a very well-known architect in Europe. He is accepted as a key technical leader within the wireless community by Sun and by customers. He is a very strong team player and never has had any problems in working with others. He has a very good vision on how to map business requirements onto technology and is very good at synthesizing ideas and technologies in order to create working solutions. Finally, he has outstanding communication capabilities and is exceptionally good at explaining complex technology concepts to others and gaining their acceptance.

Telco/ISP customer engagements: Fulup had already worked with this category of customer before joining Sun. On the business side he thoroughly understands their business models and requirements; on the technical side he is very conversant with their main technology concerns. Addressing problems such as security, scalability, and manageability are at the foundation of Fulup's expertise, and as a result he has worked with almost all of the main European Telco/ISPs such as: Transpac/Equant, Vizzavi, T-Systems, Telstra, Orange, Vodafone, France Telecom R&D...

- Transpac/Equant: France Telecom business hosting infrastructure was Fulup's first project at Sun. He designed the PASE (Internet Secure Access Point). This is a traditional network Internet infrastructure project, and Fulup was the architect during the pre-installation phase and the project technical director during the implementation. This infrastructure is still in production and receives French online income taxes and VTA (Value Added Tax) declarations.
- Vizzavi (Vodafone/Cegetel). Not a typical project even during the middle of the dot.com boom, this customer required extreme scale from day one. From an SMI point of view, this was a very good project. As explained later Fulup was Sun lead architect for Vizzavi.
- T-Systems: almost the perfect project, it started with an architecture vision document and ended with written and reviewed runbooks. Everything was delivered on time, with both a happy customer and happy consultants; as defined later Fulup kept the technical control of this project from start to end.
- Telstra (Australia): Fulup spent one week meeting with the different lead technologists of Telstra ISP. He explained the Sun vision for the identity space and more generally, the Sun ONE stack at a global level.
- Orange: Fulup worked with Orange in many countries, in the past his biggest contribution was toward Orange Switzerland where he was lead architect for the complete ISP. He also had the opportunity to help recently with Orange UK & France, as explained later his latest contribution with Orange Europe is

still ongoing.

- Vodafone: outside of Vizzavi, Fulup worked with most of the European Vodafone sister companies, Cegetel, D2, Telecel, and Telefonica. Most of this work was traditional architecture around network, LDAP, mail, and more recently SSO. As explain later Fulup is currently working with Vodafone R&D on a Liberty proof of concept.
- France Telecom R&D, Fulup initiated contact with FT R&D architects during the Liberty Alliance meeting in Sydney. He promoted the work Sun is doing with Vodafone R&D in Spain. The immediate result is that FT R&D has asked Sun for a proposal to reproduce an equivalent project. Fulup and Sun France have already had the first meeting with FT technical team, and Sun should deliver a proof of concept platform, with JES, architecture vision workshop, and corresponding PS assistance before the end of this calendar year.

Notes:

1. <http://www.vizzavi.co.uk> has around 300 servers, 70 load balancers and more than 100 firewalls, This was its biggest and also craziest project Fulup and many others worked on. Vodafone/Cegetel's idea was to create a new Yahoo. Fulup was Sun lead architect; he designed the network and services topology and technically supervised the Sun implementation team. Fulup started to work with Vizzavi when the company had only 3 people and left the project after phase-1 launch when head count was over 300.
2. <http://www.tsystems.ch> is the commercial name for Deutsche telecom outside Germany. This project target was to propose a complete IP set of solution integrating voice and data over IP all over Switzerland. The project was split between 3 different locations: Zurich and Geneva for services and Bern for supervision. Fulup started this project with an architecture vision workshop where he translated some impossible customer dreams (e.g., a 9 Gigabit-legged firewall) to a full implementable solution. He led the architecture and design, but also helped to implement the first data center in order to fulfill a very short timeline. Sun had the first informal contact with the customer in mid March, workshop run at the beginning of May, and the first customers where live the 1st of July. The total SMI revenue for this project was close to 5M\$.
3. <http://www.orange.com> fielded this summer an RFQ for consolidating all their European wireless portals under a single infrastructure. While Sun was not able to answer to the complete RFQ (Orange was more or less proposing a final per customer fee), Fulup proposed to Sun France an alternative approach based on Liberty, that while not being compliant would show to Orange Sun know-how for this type of problem and demonstrate why the Sun ONE stack was a good fit. the result is that Orange considered that only Sun had a real vision of identity management for wireless operators and pushed strongly for the two latest participants (IBM & Accenture) to study the use of

the Sun ONE stack in their proposal.

4. <http://live.vodafone.es> has been selected by Vodafone corporate R&D to be the leading country for a Liberty pilot. The project target is to prove inside Vodafone that Liberty can be used as a product to solve real problems within wireless operators. The result of this work is used internally to sell the idea to the different Vodafone sister companies. Fulup's role is primarily to defend the Sun position at the architectural level and use case level inside Vodafone R&D. Secondarily, Fulup is reusing Sun's own lessons learned to promote our own JES product suite inside Vodafone (as we did for the latest Vodafone German SSO RFQ) and shore up our weakness with the Sun ONE Identity Server team by working with them to define our product's update requirements. Some results and a demo resulting from this project have been presented by Vodafone during <http://www.iut.ch>

Banks are the second category of customer where Fulup usually works. While they have difficulty accepting the fact that they have many common issues with traditional ISPs, they nevertheless request the same type of specialists for network, security, manageability, *etc.* While Fulup has no pretension in claiming specific knowledge of the banking industry, he has worked on many bank projects: Credit Suisse, Union Bancaire Privé, and more recently the European Bank of Investment and Bank of Sweden.

- Credit Suisse: RFQ; typical pre-sale and architecture work.
- Union Bancaire Privé: full technical ownership of the solution, lead architect and technical director work. As defined later this project had a special highlight on privacy & security.
- European Bank of Investment: typical escalation, strong sales team, weak technical team, difficult customer (normal life).
- FöreningsSparbanken: CxO interaction. Met the customer CTO and main architect for informal talk. Explained the Sun Liberty vision on Identity management, demonstrated how and why this fit their business requirements.

Notes:

1. <http://www.ubp.ch> Union Bancaire Privée is a small Swiss private bank, the target was to open this establishment to the Internet for both employees and customers. One key element of private banking is privacy & confidentiality; this is the first, and only time where Fulup was taken aside by a manager to explain him special security concerns, such as a customer calling from street phone in order to break government traceability. The system is a double-sided design: on customer side there is no log, no trace, and most importantly, no name. On the other hand, for employees there must be full traceability, policy rules, logs, and mail interception. Fulup started this project as lead Architect; he designed the Sun solution for the infrastructure, network

topology & security, as well as for services (mail, DNS, LDAP, *etc.*). While the implementation was handled by the local Swiss team, Fulup followed the entire project as technical director.

2. <http://www.foreningssparbanken.se> Fulup met this bank in between two sessions of an architecture workshop he had with T-Mobile in Stockholm. He spent a few hours with this bank CTO and IT architect. He managed to understand their business problems and to demonstrate to them how the Sun ONE Identity Server and Liberty could fulfill their business requirements. The result of this quick meeting was a freeze of the ongoing SSO project being conducted without Sun, and the start of a new proof of concept with Sun, around Identity Server and Liberty.

2.0 Responsibilities for a successful execution of technical work

Fulup has been very successful in his work, he was engaged as lead architect on huge projects, such as Vizzavi or T-System, and has succeeded in hiring and developing a complete group of technology experts in Europe. He has moved without any difficulty from a position of senior architect where he was leading technical projects, to a role of manager of an architecture group where his role involved mainly leveraging the ideas of his group, to the role of master architect where he must explain Sun's technology vision at a CxO level.

Fulup's career at Sun is organized in 3 quite different classes of work:

- 1st year when he was working as senior architect on big ISPs (Vizzavi, Transpac, Telefonica, *etc.*).
- 2nd & 3rd years when where he first started to setup the AIP (Advanced Internet Group) in Europe and while the group was growing made the move into a manager role, while never stopping to lead some key technical projects, such as T-Mobile, to be sure he did not lose his technical edge.
- 4th year when he chose to roll back into a technical role, and when his work as master architect has provided technical leadership and value to SMI in the identity and wireless space.

3.0 Engineering leadership

Fulup is accepted as an expert in his areas and as a technical leader. He set up the AIP EMEA team and has mentored many architects and senior consultants throughout Europe. Engineering respects him because of his strong and wide technology knowledge, but also because he is a real team player and consistently shares his ideas with others and credits the work of others, as well as having a good capability for synthesizing a variety of work into a coherent solution.

Current Areas of Expertise

While Fulup already had a deep understanding of computing technology from his previous professional life, Sun gave him access to outstanding customers and projects. Furthermore, Fulup understood very quickly how to take advantage of

Sun's informal organizations to work with other groups. Fulup is far from being a technologist only, while he stopped working with Java when he joined Sun, he developed other area of expertises where he is today considered as an expert.

Low level technical expertise, Fulup, despite his higher level roles inside Sun, has never stopped developing his low level technical knowledge; today this includes activities such as low level kernel programing, network debugging/optimization, Sun ONE Communication and Identity Suites, and Linux.

1. Low level programming is not a main focus for a Sun PS employee; nevertheless, Fulup had the opportunity to help customers implement real time applications on top of Sparc/Solaris compact PCI boards (Eurlicon, Italy). More often, he uses this know-how to check into Solaris/Linux kernel issues or into some low-level libraries to help colleagues in understanding strange application behavior or to bypass some system limitations.
2. Network optimization/debugging: Fulup can not only define high level network topology/security models, as a typical architect does during ISP projects, when needed he can also jump down to the network device OS level in Alteon or Extreme loadbalancers or check ipTable/Chain or Firewall setting or trace the Network packets.
3. Sun ONE/JES stack: Fulup has a very good knowledge of the JES stack. While he is not a Java expert anymore, he manages the complete JES stack at the architectural level, and can go down to the performance tuning level for Directory, Messaging and Identity Servers. He can lead a Sun ONE project from first CxO meeting toward the ultimate go-to-production tuning and has demonstrated this in the field (with T-Systems).
4. Linux: Fulup discovered Linux when he started teaching at University again; he was an early adopter and started when the kernel version was not yet at v0.9. Before joining Sun he wrote many user and kernel space applications. When joining Sun he did not need to reformat his disk, as later Sun adopted Linux and StartOffice through Cobalt and StarDivision acquisition, he was already using these technologies. While until recently he mainly used his Linux competency to help internal users, now that Linux has gained popularity inside customer accounts he can leverage his long experience on this system. The Linux/LDAP project described earlier in this document is a good example were Fulup has been checking the source code of the pthread library and kernel mutex before hacking nspr library to understand and bypass some glitch ing Sun ONE Directory Server under heavy load when running under Linux.

High level technical expertise is probably the most valuable part of Fulup's competency for Sun. Fulup has established himself as a leader and expert in some key areas for Sun's business, such as ISPs, wireless providers and identity management.

1. ISPs: Fulup joined Sun in the middle of the dot.com boom, and he took advantage of his recent University teaching experience to explain to customers how to handle Internet services and users' good and bad behaviors. He very quickly became a reference for European Sun PS Geos and while at this time he was a very recent Sun employee, he participated in many key projects (Telecel, Vizzavi, Telefonica, etc.).
2. Wireless: as described earlier through some customer examples, the wireless vertical is where Fulup has spent most of his customer facing time. This is either with wireless operators (Orange, Vodafone, KPN, ...) or with wireless equipment manufacturers (Nokia, Ericsson, Alcatel). He understands both their technical and business challenges and is a perfect interface for CxOs when they ask themselves fundamental questions such as "where do I go with all this fast moving technology?" Fulup is also part of the EMEA wireless community
<http://go.europe.sun.com/portal.cfm?page=info/viewInfo.cfm&id=6637>, where he has helped the Swedish team in architecting DSDF to integrate Sun ONE Identity Server. More generally, he works very closely with the few other Sun European wireless specialists, especially during RFQ processes.
3. Identity management: Fulup is one of Sun's worldwide experts on this subject, and he represents PS inside the Project Liberty (<http://www.projectliberty.org>) standardization community where he follows the architecture and mobility subgroup. He is one of the very few Sun experts around Liberty problems and solutions inside wireless operators, and he is frequently called upon to establish Sun's Identity/Liberty credibility within customers. Fulup worked with the three major European operators (Orange, T-Mobile, Vodafone) on identity problems and solutions. Identity management is very strongly controlled by the European commission and while Fulup started working with Liberty primarily in ISPs and wireless operator accounts, this is now moving to banks and government.

4.0 Visibility and influence across organizations inside Sun

Fulup is very well received inside engineering groups, and he has weekly contact with either the directory group from Grenoble or with the Identity Server group from Santa Clara. He exchanges ideas with them at very low product level about optimization and advanced features, and at a higher and more functional level. He is also very well appreciated within GSO, and the sales community often calls for his capability in sessions presenting a vision to customers.

Non technical expertise, while being harder to measure is also an important aspect of any senior employee. Fulup's experience is rich and long enough to give him the opportunity to exercise different roles inside very different companies. The result makes Fulup feel as confident tweaking a kernel as he is speaking in front of 200 people. His main capabilities in this area are team

leadership, communication, and business development.

1. Team leadership: Fulup set up a very technically solid and close-knit team in Europe. He was able to do this almost single-handedly while developing new business and working on customer projects. On one hand he succeeded in convincing his management to be flexible with the rules he defined for his team in Europe, and on the other hand he organized his group's activities in order to make it work as a team and not as a set of individuals. The result was an extremely successful European AIP team, with almost no escalations from either Geos or customers during the 3 years he operated it. The AIP team is still very popular in Europe and probably still better know than any expertise center that came later. Today, Fulup is not a manager anymore, but he still mentors architects and senior consultants from European Geos and expertise centers. This is not only done within his domains of technical expertise, but also within less technical subjects such as how to handle customer requirements, documentation, intellectual property, or even more personal subjects such as stress or career strategy.
2. Communication: Fulup has strong communication capabilities. He was a university professor for more than 6 years and knows how to explain complex ideas and concepts. He meets regularly with customer upper management to help them embrace Sun's vision. He also participates in internal symposiums such as: CEC FY03, "Identity & wireless", French Summer academy FY03, Swiss Identity TOI, as well as in external events: Network & Telecom Stockholm 2003, Architecture trip Sweden/Finland, and Cap Gemini Architecture Master Class. This last one resulted in a long relationship Fulup established with a Cap chief architect during previous Sun/Cap meetings. They both chose to organize a 3 day class training for Cap certified architects inside Cap's global architecture program classes. They chose subjects and shared the leadership of the sessions. Around 15 Cap certified architects and 5 from Sun (mainly from Europe) attended these sessions that were given inside Cap Gemini global training center of "Les Fontaines" in the suburb of Paris.
3. Business development: Fulup is very much in demand by GSO for pre-sales engagements. He has worked on many pre-sales deals as described earlier within the wireless space, but also for banks (Credit Swiss, UBP, Visa Israel, Bank of Sweden, EIB) as well as for other classes of business (Government: ISTIM, Danish Post, French social security; and private industry: Mattel, Norsk electricity). GSO appreciates Fulup's pragmatism and the way he can map technology onto customers business requirements, he is usually presented to customers as what the French would call "man of the art", but internally some people envision him as a sale man dressed as a techie. What ever vision is used he knows and likes this type of activity, especially in France were most of the informal meetings with CxOs happen in nice restaurants. Fulup travels around 3 to 4 time per month all over Europe to spend ½ day or even less with some key customers.

5.0 Interaction with Management and other functions

Fulup was a formal manager until last year, and it is therefore quite logical for him to participate in EMEA Software Services management group where he usually defends global Expertise Center groups. He regularly exchanges ideas with many different Geo managers from PS and GSO and advises them on how to approach technical customer problems. His specialization in wireless and identity technologies makes him a key contributor for both Grenoble Directory Server and Santa Clara Identity Server groups, where his contributions have a direct influence on products specification.

Publication communication

Fulup presents regularly both internally and externally to Sun, outside of what we can be considered as normal day business communication; he is asked for more personal speeches. We can group these talks into three main categories

- Transfer of knowledge, either purely internal or with partners. The goal of these talks is mainly to transfer knowledge, but also to share ideas and visions with other Sun employees such as those in Sun Switzerland Telco group (FY02), Cap Gemini (FY02,03,04), Liberty-1 European road show (Londres, Paris FY03), Identity TOI (Zurich-FY03), Wireless and Identity (FY03), Architect-Trip (Sweden FY03,04).
- Technological talks: These are more “commercial” oriented talks, and the target is more to make people accept Sun as a technology leader. For Fulup this mainly translates into identity and/or security visions. Examples include the Informix User group (Danemark FY02), European PS Roadshow (Londres, Frankfurt, Munich FY02), Nokia R&D (FY03), Network Telecom (Stockholm FY04).
- Strategy, organization: This is more of an out-of-band type of talk, Boston consulting group (FY02), Open Source Seminar (Brest FY02), Sun French summer University, Cap Gemini Keynote session (Paris FY03).

Notes:

1. CEC 2003: This presentation outlined how to start from high level customer requirements attached to new wireless technology adoption and from operators' infrastructures and business model constraints and then show where and how wireless operators should deploy identity management technology to meet their customers' requirements.
2. Network & Telecom Sweden 2003: This is the biggest Swedish ISP event and it is a good place to meet and influence both Sun customers and non-Sun customers. Fulup had a keynote speaker session around new generations of identity problems; this talk was organized around the idea of early versus lazy adoption of technology, trying to show that ultimately Liberty and Web services are for not for yesterday or tomorrow, but for today.

3. Cap Gemini 2003, Fulup had already made a couple of keynote session presentations for Cap in different localations. His last one was dedicated to junior architects, moving from the position of project engineer to what Cap calls the architect level. His talk was quite different from what we are accustomed to doing at Sun, and was more oriented toward what an architect is and how one behaves than about any technical specifics.

6.0 Strategy and Technical Direction

Fulup has influenced many customers in their technical vision. He is very often requested for meetings with CxOs, either under very informal “restaurant meeting” conditions or for a fully formal ½ day meeting. Fulup as been extremely successful at convincing customers with only white board sessions or even just with a pen and a napkin. Originally more with ISPs and Telcos, he today extends his competency to wireless and banking customers and other industries concerned with identity management.

Fulup's Sun 360° report shows that he was an excellent manager, and even so, this activity never took him too much time. His AIP team was composed of very senior people that did not requirer too much day-to-day attention, despite the fact that he was managing a group of 14 architects spread over 6 countries, with 6 different cultures, and speaking 6 different languages.

As defined previously, Fulup's activities have been on the borders of different topics, while keeping a very strong technical capability. Fulup has not only been very successful at understanding technology, but also successfully translating it into customers' business contexts. At the beginning of his Sun career, he worked mainly with ISPs and banks. During the dot.com boom, he architected Internet services and network topologies and more recently while keeping the same class of customers, he has moved to wireless and Identity management projects.

Activities Within Technical Councils & Workgroups

Outside of lightweight groups such as the “Mobility Summit,” Fulup can only follow a minimal number of groups seriously. At a global level he is a member of the Liberty standardization community and at a European level, he is a member of the EMEA wireless council.

- Liberty: Fulup represents PS inside the architecture groups and follows the mobility track. This represents almost one week per month, including many trips outside of the European timezone and homework to review technical mail conversations and documents. This is extremely valuable, outside of the understanding of and influence on the Liberty specifications that it offers, it gives Fulup a very close relationship with Identity server Engineering groups and the opportunity to establish very close contact with some major customers (Orange, Vodafone, Nokia). In addition, Fulup also represents the Sun Liberty group inside the OMA <http://www.openmobilealliance.org>
- EMEA wireless council, this is a forum of exchange led by the wireless center

of Stockholm. It is a relatively lightweight community with 2 sessions per year most, of the time attached with another event like IUT Geneva somewhere in Europe. These sessions are more or less equivalent to “mini CEC” sessions dedicated to wireless. In this community, Fulup is one of the technical experts, and it is one very good channel to be aware of in the course of ongoing projects and RFQs.

7.0 Prominence and interactions in the industry

Fulup has been working with many partners, either for project technical issues such as network switch fabrics [Alteon, Foundry, Cabletron], consulting companies [Cap Gemini, Accenture, IBM Global Services], or other equipment manufacturers [Ericsson, Nokia, Alcatel], he has lead some key reusable work, such as eLDAP and Nokia/Sun Liberty for Mobility work.

Reusable IP is a complex subject and the fact that PS people are, before anything else, customer facing people does not make it any simpler. As we would say in French, Fulup's strategy consist in managing both “the goat and the cabbages”. While understanding IP is the only way for scaling and spreading knowledge into the field, keeping IP closely related to customers' real requirements is necessary to find funding and resources. While Fulup participates in many small technical projects, the most significant IP he has made key contributions to are eLDAP, Nokia Liberty 4 Wireless, and currently Sun ONE LDAP for Linux.

- eLDAP, after 18 months at Sun, Fulup envisioned that LDAP customer requirements would soon cross the 2M entry border and move to a new degree of scale. He organized a mixed team composed of AIP members, Grenoble directory Engineering, and local Geos to work on the next generation of directory architectures.
- Architecture vision workshop: while being the AIP manager, Fulup pushed his team to replay the same processes to lead architecture workshops that can quickly bootstrap customer projects. Fulup lead more than 50% of architecture vision workshops given by the AIPs and promoted this concept as it is now officially offered by the PS solution group.
- Nokia Liberty for Wireless: A reusable POC that helps us to define Liberty and product limits, before proposing to wireless operators. A collaborative project between a Nokia program team, Sun PS Finland, and Identity Server Engineering. Fulup was the lead technical architect.
- Linux LDAP, Fulup pushed for this project because many strategic customers are shifting toward Linux, and Sun has no point of reference for Sun ONE directory under Intel/Linux. While being much smaller than eLDAP this project is also driven by direct customers requirements and supported by local PS and engineering.

Notes:

1. eLDAP was defined to surf the second wave of LDAP scalability

requirements. The original target was to support 1000 write-updates/second concurrently with 100,000 reads/second on a database of 100 million entries. Fulup had many roles in this project: as the AIP manager he was supporting the biggest team effort; he had to find funding & time for making his own people available. As project leader he had to negotiate with Geos for resources and with Engineering to commit resources and agree on use cases. As one of the technical experts, he had to fight to save the vision from the other experts working on the project. While some eLDAP numbers have not been reached, some others, such as the number of entries have been more than passed. eLDAP was the main element of many key customer wins in Europe, including Vodafone/D2, Cegetel, KPN, and Vodafone Spain . Today eLDAP is still the only solution inside Sun to support 10's of millions of entries under Sun ONE Directory Server. While eLDAP is heavily used and promoted inside EMEA, some support issues have prevented it from being successfully deployed in the USA.

2. Architecture vision workshop: The idea was to transform the dream created by marketing and the sales force into something the customer could see, touch, and obviously, buy. We gave workshops under many forms before arriving to a stable form (2 days & 4 phases), with a predefined SOW and resulting document table of contents. Fulup lead, with his EMEA AIP and local Geos, more than 10 workshops under its final form (Wanadoo, T-System, Orange, Telefonica, KPN, etc.), many of them translated into big or even huge project (T-Systems, KPN). This workshop method had been handed over to the expertise solution group and is now available at a global level.
3. Nokia Liberty for Wireless: Fulup pushed to start this project after he realized that T-Mobile, Vodafone, and Orange wireless SSO problems were equivalent. He worked a few week with Nokia R&D teams from Finland and the UK to setup a Liberty compliant access point for wireless operators. This work was done in collaboration with the identity Server engineering team and with Sun PS Finland. While this work was originally using T-Mobile as a main use case reference, the outcomes included not only learning Liberty phase-1 limits and a few bugs/limits inside both our Sun ONE products and Nokia's WAP gateway, but also the main outcome at a global level has been for Nokia & Sun to enter into a Vodafone R&D Liberty project and at a local level to build a proof of concept for Sonera <http://www.sonera.fi> in Finland that was presented during the EMEA NICP master training in Grenoble.
4. Linux LDAP: many telco equipment manufacturers took the strategic decision to move onto Linux. Fulup took advantage of a clear request from Nokia to set up a war team composed of Sun ONE expertise center, PS Finland, and LDAP engineering and DDE personnel. Fulup's role was to select use cases to test and to setup & tune the Linux configuration. While some results of this benchmark have already circulated inside Sun, the official documents are not

public yet.

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