# Arthur D Little

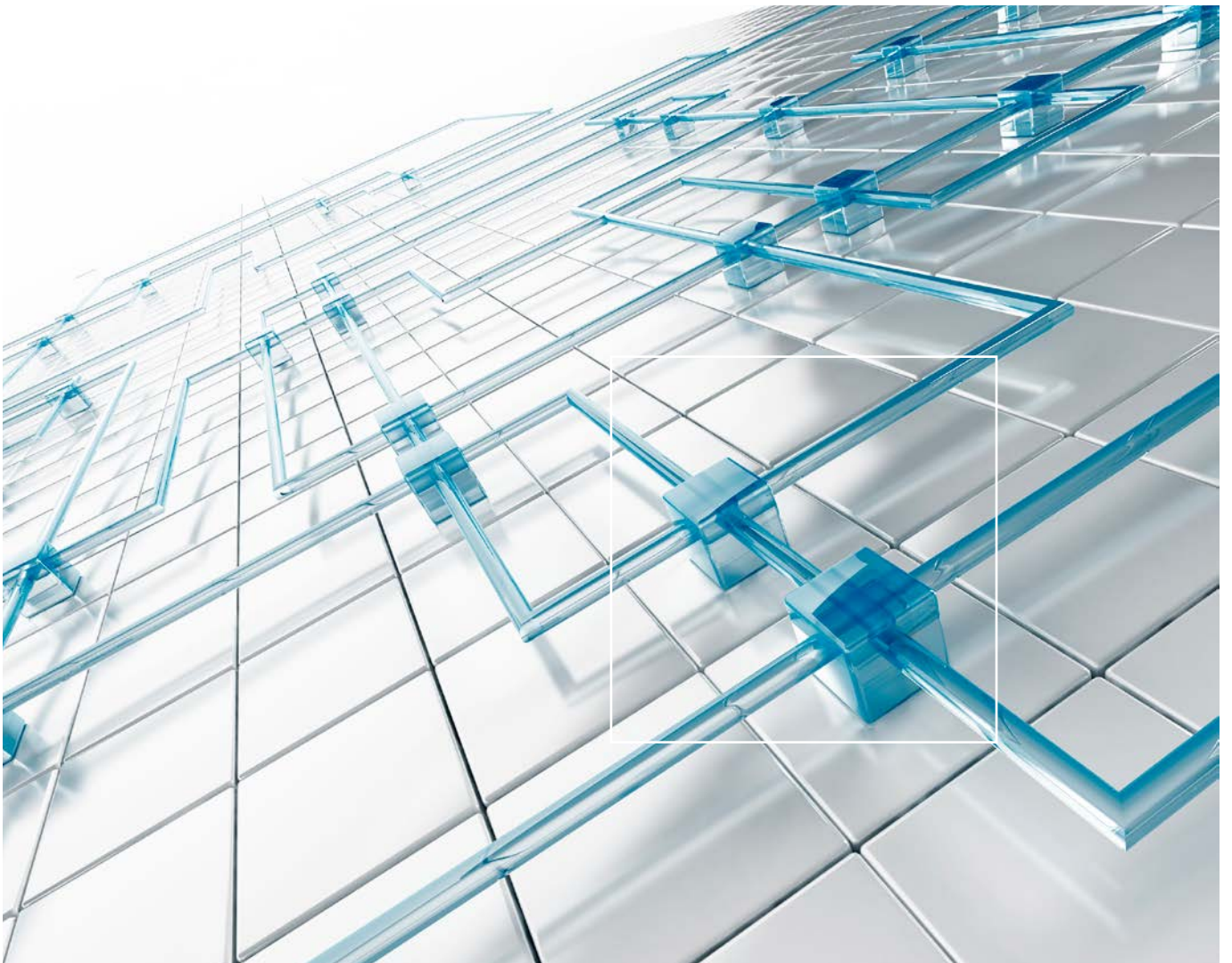# Managed services for telecom operators

*Removing the efficiency barrier customers face from technological complexity*

# Content

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# Executive summary

Managed services are becoming increasingly popular with businesses around the world. The global market for managed services is expected to grow from USD 160 billion in 2014 to USD 286 billion in 2019, at an estimated CAGR of 12% over the next few years.

In our last publication on managed services, we have focused on the opportunity. This paper will shed more light on the delivery complexities. Global customers demand service that is uniform worldwide, with all the operational complexities this entails. At the same time, national mid-sized and even small enterprises require factory-like delivery of managed services.

Customers buy managed services to increase staff productivity beyond the complexity barrier. Examples include integrating a unified communication system with a Microsoft Exchange solution, establishing a single-sign-on federation mechanism and the like. However, for operators this means that successfully delivering managed services requires them to be more efficient in managing the client's technical complexity than the clients themselves are. And this is precisely where the problem rests.

Benchmarks indicate that managed services customers are willing to pay up to five times more for managed services than their unmanaged counterparts. By contrast, worldwide prices for unmanaged or best-effort connectivity are likely to remain under price pressure, as competition between telecom operators remains undifferentiated.

The new norm entails a number of shifts:
1. from price- and feature-based selling to solution based selling,
2. from a product delivery setup to a setup that allows for delivering client-specified services,
3. from best effort to SLA oriented operations.



Managed Services Benefit to Clients

Staff productivity

Outsourcing technical complexity to Managed Service providers

Managing technical complexity within the own hierarchy

Technical complexity

Source: Interviews, Arthur D. Little analysis

As a result telecom operators must open their internal, silo-based operating models up and start taking customer problems seriously.
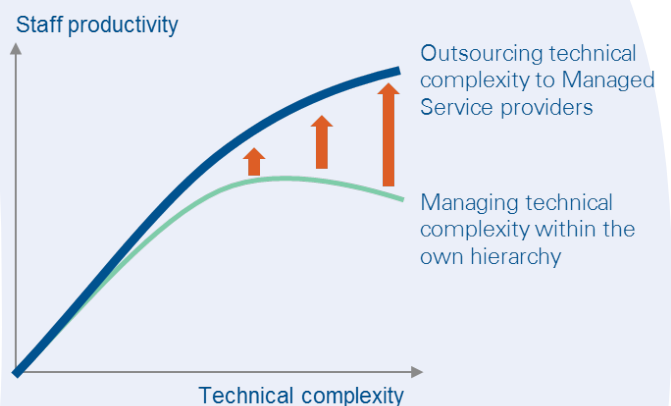
# 1. Managed services take complexity off customers' shoulders while guaranteeing "that it simply works"

**Adding a management layer to basic services helps grow beyond best-effort, unmanaged services and enables tapping into servicing business-critical applications**

"Managed services" refers to managing customers' technology environments on an ongoing basis through standardized offerings designed to deliver on standard or agreed-upon target SLAs. Managed services are typically offered to cover business-critical services – functions that are at the heart of a business. Examples of those critical services range from a key-card computer at a hotel that hands out room keys for guests arriving on weekends (exactly when traditional call centers cannot deliver expert support), to SAP modules that control the supply chain of just-in-time manufacturing facilities, all the way to managing the data center of the stock exchange or flight-control systems. Although the latter have no option to fail, even the smaller or seemingly insignificant services must not be interrupted when considered from the viewpoint of the respective businesses.

Current telecom offerings for managed services can be broken into six main product groups, as illustrated in Figure 1.

Managed services also entail the ability to manage the customer solution "end to end" by offering active-monitoring features to the provided solution and proactively reporting faults and incidents, while ensuring that restoration happens within the committed SLAs.

The challenge of maintaining "end-to-end" SLAs that are relevant and beneficial from a client point of view grows exponentially as the complexity of the solution increases. An example: it is very different to promise your customer that its employees will be able to send and receive emails on their mobile phones from selling a phone, a SIM and an Office 365 license.

## Figure 1: Example of a managed services portfolio

| Voice & Data | Enterprise Networks | Security | Equipment | Data Center & Cloud | Applications |
|---|---|---|---|---|---|
| **Managed Voice & Data**<br>■ Managed fixed and mobile voice & Broadband<br>■ Managed VoIP<br>■ Managed Audio/Video conferencing<br>■ Unified Communication<br>■ Mobile engagement | **Managed LAN/WAN**<br>■ WAN/LAN consulting, design & integration<br>■ Managed LAN<br>■ Managed WAN<br>■ Managed WAN (Layer 2-3)<br>■ FMI Data<br>■ Managed International Networks<br>■ Managed enterprise routers & switches<br>■ Application acceleration | **Managed Security**<br>■ Firewalls & IP concept<br>■ Managed VPN<br>■ Security maintenance<br>■ Security consulting<br>■ Security policy development<br>■ Virus- and Spam protection<br>■ Risk & compliance assessment | **Managed Mobility**<br>■ Enterprise Mobility Management<br>■ Device Management (Handsets, Tablets, Field Force Devices..) | **Managed Housing / Co-location**<br>■ Managed housing<br>■ Managed co-location<br><br>**Managed Hosting / IaaS**<br>■ Servers hosting<br>■ Managed servers<br>■ Managed storage<br>■ Web Hosting<br>■ Server virtualization<br>■ Desktop virtualization | **Managed Software**<br>■ Applications management and troubleshooting<br>■ SAP, CRM, BI and ERP consulting, design & integration |
| **Managed Voice Systems and Call Center**<br>■ Managed PBX<br>■ Managed Call Centers<br>■ Call recording<br>■ PBX/ call centers consulting, design & integration | | **Managing disaster recovery**<br>■ Backup & disaster recovery systems<br>■ Business continuity services | **Managed Office / IT Equipment**<br>■ Managed desktop<br>■ Managed print services<br>■ Printing & scanning management software<br>■ Printer & scanner device management<br>■ Reselling | **PaaS**<br>■ Deployment environment<br>■ Runtime environment<br><br>**SaaS**<br>■ Application hosting (software, appstore, webshop)<br>■ Deployment environment<br>■ Workflow management | **M2M**<br>■ Fleet & freight management<br>■ Industrial solutions |

However, from many interviews and case work, we have learned that indeed many operators, actually shy away from the related technical complexity. Asked, if they would feel comfortable securing their national stock exchange or air-traffic control, the most common answer was that they would feel comfortable "delivering the circuits". That is exactly why many operators are prone to become bit-pipes. The complexity of specification and design rests in the customers' hands, and operators are on the receiving end of an order.

So why do operators not take technological complexity off their customers' shoulders? Or, asked differently: why are operators not shying away from sell payment systems to supermarkets (if they succeed) while they are shying away from securing more obviously vital applications? In either case, there is nothing to gain from providing unfit services to customers. It is dangerous for the customer - and customers know it.

# 2. Managed services represent an attractive growth opportunity for telecom operators

Operators, in emerging and mature markets alike, will continue to face challenging times, as unmanaged connectivity prices have been declining and can be expected to further erode in the future, driven by a range of dynamics.

1. Capacity is still abundant, and continues to grow faster than demand.

2. Incremental cost for the utilization of that bandwidth is minimal compared to incremental revenue, and incremental operating costs are often negligible.

3. Technological advances reduce the cost of upgrading capacity on existing assets for all network asset classes: copper, HFC, fiber and over-the-air technologies

The transformation of once-praised connectivity services into undifferentiated commodities makes the case for managed services all the more compelling for telecom operators. Businesses increasingly depend on constant uptime of services such as connectivity (voice and data), security, managed equipment, cloud and software applications, as all are major lifelines. This is the core reason that, if sold properly, businesses are willing to pay substantial premiums for services that come with performance guarantees. Our benchmark of leading telecom operators indicates premiums for managed services

ranging from 20% to 400%, depending on the nature of services (Figure 2).

Although readiness to pay may be there, we have seen many operators lack sales abilities (as well as delivery abilities, which we explore in the next section) when attempting to embark on the journey into selling managed services. This is mostly due to three deficiencies:

1. A lack of product availability to the sales teams of truly managed services (e.g. an empty toolbox)

2. A lack of process maturity during the sales phase to properly detect and describe a client problem in which technical complexity is of significant concern, with monetary impact on the client.

3. A lack of structured pre-sales engineering and support, coupled with a one-man-show understanding of account managers.

It seems that although demand is growing and customers are willing to pay premium prices, operators are still set up to sell commodity connectivity and leave managing complexity to their customers – or chance.

Figure 2: Pricing of managed services versus unmanaged services
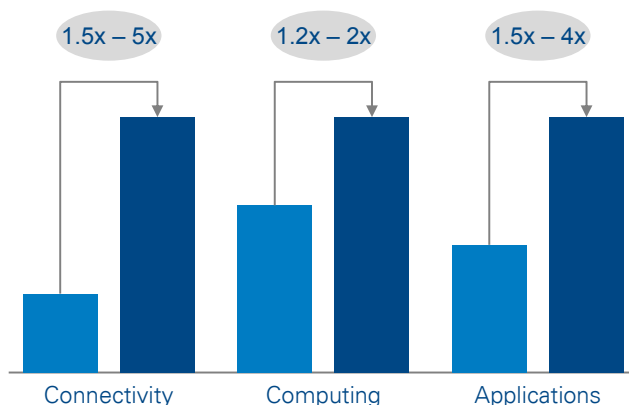


Source: Interviews, Arthur D. Little analysis

# 3. Telecom operators have all the assets to capture value from the managed services opportunity

Not withstanding all the issues raised above, Arthur D. Little generally believes that telecom operators can and should sell and deliver managed services. Telecom operators have all the assets they need to offer and operate managed services: a highly available and secure network and IT, a 24/7 operations center, device and application monitoring tools and capabilities related to planning, building and running a network.

However, we see many operators struggle with the transformation required to utilize these assets and capabilities for managed services: to take them from a network-wide level to a customer-individual level. It requires giving up certain paradigms:

1.  Usually, the infrastructure used for client services is kept deliberately separate from the infrastructure used for the supplier's own services. Cloud services are a good example, as well as also UC, IP-Centrix, or hosting services. Surprisingly, against common sense, customers' cloud services are run in separate environments from the carrier's own virtualized machines.

2.  Operating teams for customer services are also distinctively separate from those teams operating own core platforms. Although there are teams looking after the operator's own services 24/7, individual client services are often not supported to the same extent.

3.  Lack of proper documentation of their network assets. This is a big issue, in both corporate valuation and delivering quality services. Without physical and logical configurations readily available to operating teams, any incident management crumbles and turns into detective work. Numerous audits in Europe and MENA have revealed that operators do not always properly manage their inventory or configurations. They pay for long-decommissioned circuits, cause outages due to faulty configuration and assume redundancy on non-disjoint or congested links. For these reasons, it is not surprising that network faults due to construction make up only 10–15% of all faults, the remainder being self-inflicted.

Figure 3: Telecom operators typical capabilities across the Managed Services cycle
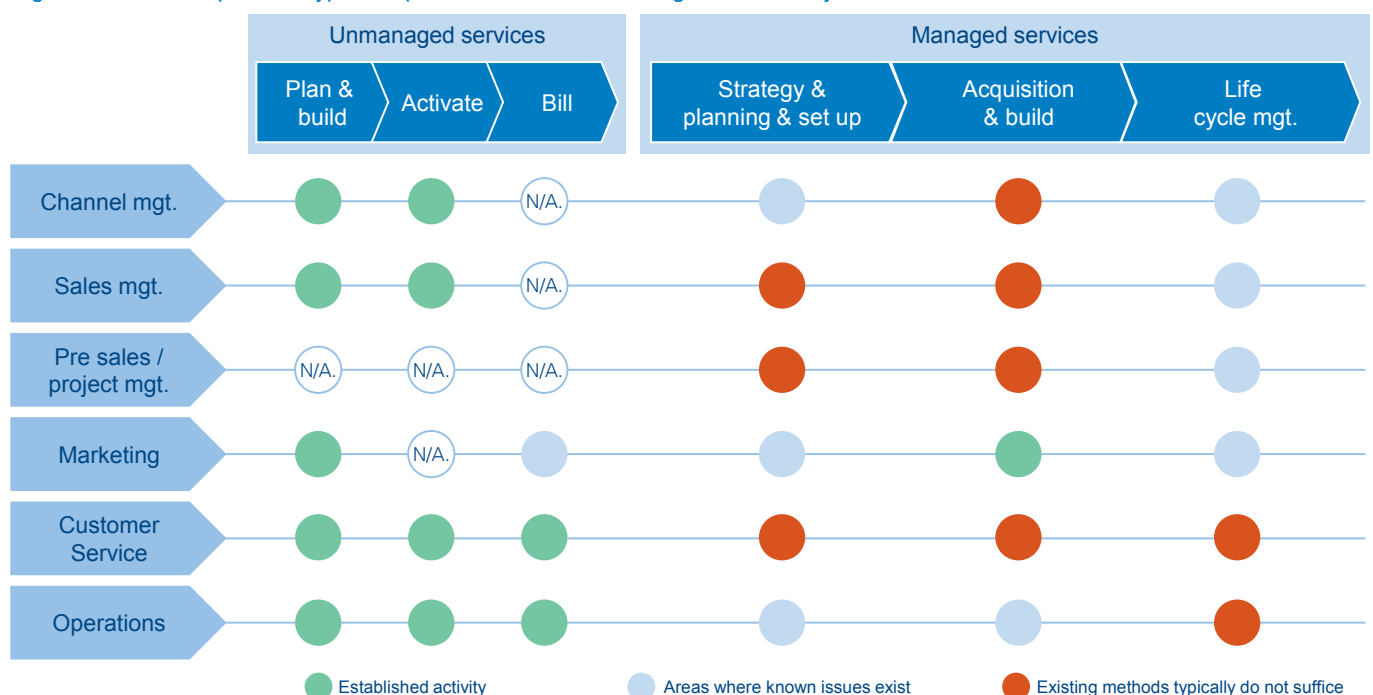
4. Incident management is often inaccessible. Only few operators offer accessibility to the client and expose their technical administrators to direct communication channels with the client's relevant service.
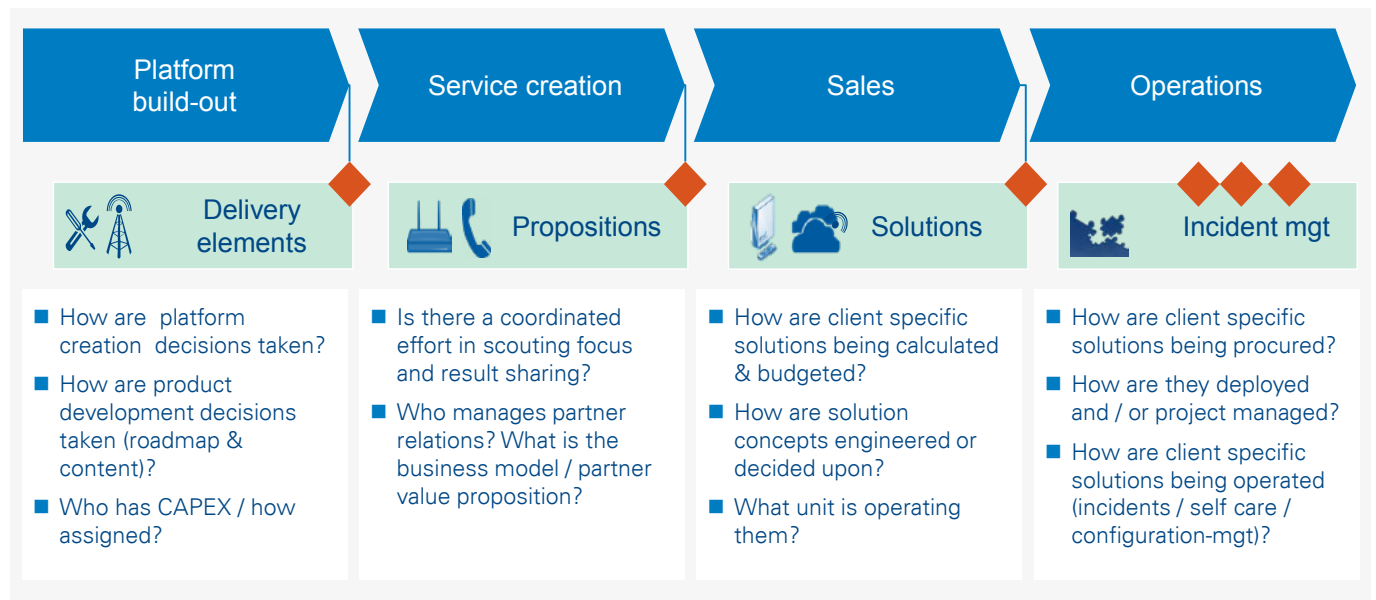
After assessing numerous operators' capabilities during the last 24 months using a standardized capability assessment matrix, we can only confirm our prior findings that most operators are less equipped to deliver managed services than unmanaged services. (See Figure 3 overleaf)

Consequently, if operators embark on leveraging the managed services opportunity, they will need to enhance their asset management and configuration management tools, as well as their incident management and release management processes. Transforming current approaches into a fully transparent, clientaccessible entity that manages assets, configurations and incidents well is comparable to turning an industrial kitchen into an open-view kitchen. It first requires some clean-up.

Once the basics have been fixed, a customer-centric operating model needs to be established, integrating four key domains: platform build out, service creation, sales and operations (Figure 4). An operational set-up dictates dedicated support functions centered along providing, ensuring and maintaining strict SLAs and constant quality support.

Figure 4: Operating model principles along simplified value chain

| Platform build-out | Service creation | Sales | Operations |
|---|---|---|---|
| **Delivery elements** | **Propositions** | **Solutions** | **Incident mgt** |
| ■ How are platform creation decisions taken? <br> ■ How are product development decisions taken (roadmap & content)? <br> ■ Who has CAPEX / how assigned? | ■ Is there a coordinated effort in scouting focus and result sharing? <br> ■ Who manages partner relations? What is the business model / partner value proposition? | ■ How are client specific solutions being calculated & budgeted? <br> ■ How are solution concepts engineered or decided upon? <br> ■ What unit is operating them? | ■ How are client specific solutions being procured? <br> ■ How are they deployed and / or project managed? <br> ■ How are client specific solutions being operated (incidents / self care / configuration-mgt)? |

# 4. To succeed, operators need to articulate the ambition level and playing field

The managed services strategic option space is complex, and any decision needs to rely on the company's overarching ambition, a careful selection of the playing field and a structured executional approach. Telecom operators are faced with key strategic questions in terms of "what and where", as well as "how", when developing their managed services USP.

## Ambition: What is your ambition regarding managed services?

- What are the strategic guidelines?
- What do you want to achieve?

## Playing field: What type of player do you want to become in the next five years?

- In which geography do you want to play?
- Which business model is your core?

## Execution: How do you want your enterprise business to achieve growth?

- What needs to be done to achieve the ambition?
- How have others done it?

We have identified 5 managed services business models players on the market are following (Figure 5). While players are sometimes active in more than one model, depending on ambition and maturity we can only recommend telecom operators to start close to their core: with advanced connectivity. In our view, less mature operators should focus on getting this play right before embarking into the more complex and competitive spaces.

Figure 5: Five business models for Managed Services

| | Business model | Value proposition | Benchmarks |
|---|---|---|---|
| Advanced connectivity | ■ Focus on several connectivity-related services<br>■ Based on secure, flexible & capable network<br>■ APIs for 3rd parties to leverage the connectivity assets & capabilities | Ease of integration | ■ Colt<br>■ Interroute, Level 3 |
| ICT supermarket | ■ Leverage customer access to cross-sell own & 3rd party services<br>■ Efficient partner integration (back-2-back SLAs) and onboarding<br>■ Efficient marketing & sales setup to integrate partner offers | Customer reach | ■ Deutsche Telekom<br>■ Verizon<br>■ NTT Docomo |
| Problem solver | ■ High customer intimacy and trust<br>■ Highly skilled in understanding business issues and offering efficient solutions to them (process & systems consulting) | Customer intimacy | ■ T-Systems<br>■ OBS<br>■ NTT Docomo |
| Global business | ■ Leverage differentiation of self-developed products with global relevancy<br>■ Requires means to protect such differentiation (e.g. IP protection) | Best in class solution | ■ BT Global<br>■ AT&T<br>■ PCCW |
| Virtual service provider | ■ Leverage own products in own online channels<br>■ Focus on low-cost, high standardization, high self-care services | Innovation and agility leader | ■ Rackspace<br>■ Salesforce<br>■ Amazon<br>■ Google Apps<br>■ Aryaka |

# 5. The managed services transformation lays the basis for competing in the cloud & ICT space

Moving into a managed services environment should be regarded as a natural progression adding professionalism to telecoms operations. Avoiding this evolution, operators will be unable to reap the benefits of technology disruptions that are already on their way: software defined networks and network function virtualization promise both cost benefits and operational convenience to customers.

Take the growth of WAN optimization services as an example, where virtualized components both in the core and on the client premise, both provisioned and managed remotely and leveraging the smart mix of best effort connectivity with security adding protocols and capacity. These are growing at the expense of traditional MPLS products.

Or take the integration of cloud services with network services as another example: without offering an integrated SLA spanning both service classes, operators can not compete with over-the-top suppliers. It is all about leveraging the assets in the context of customer demand. Insights into multiple assignments enable us to assemble a list of key requirements to become a managed services provider.

| Managed services key requirements |
| --- |
| ✓ Ability to technically plan services end-to-end, including the core prior to a sale |
| ✓ Services are built as planned and documented as built, including the applied configuration |
| ✓ The solution is tested prior to going into production, and formally handed over to operations |
| ✓ Technical support is available during business-critical hours, up to the third level |
| ✓ Any redundant services confirmed to be delivered are disjointed from other third-party network suppliers to avoid single points of failure |
| ✓ Any used network equipment (on operator side as well as client side) is actively monitored, patched and release managed |
| ✓ Formal incident/change management is installed and alive |
| ✓ A formal demand-review process with the client exists |

Integrating managed services into an operators' DNA requires building up internal capabilities and an extensive internal transformation – a challenge most operators fear due to legacy, size and processes.

However, the successful ones have succeeded have:

- Opened their own technical environments up for customers to run their applications on

- Proactively and operationally managed third parties' solution contributions

- Been transparent on any incidents impacting the production platform, regardless of whether an incident has had client impact

- Allowed client administrators to be in direct contact with their own technical staff

- Had transparency regarding their own access networks, the client on-site gear and the end-to-end network configuration

As with any transformation, full organizational buy-in to the promise of managed services is required to give this much-needed transformation the momentum and energy it needs to succeed in a world where telecom operators are searching for new areas for revenue that go beyond rudimentary connectivity solutions. The good news is that adding this level of professionalism will also reveal numerous cost savings opportunities and remove internal inefficiencies in production.

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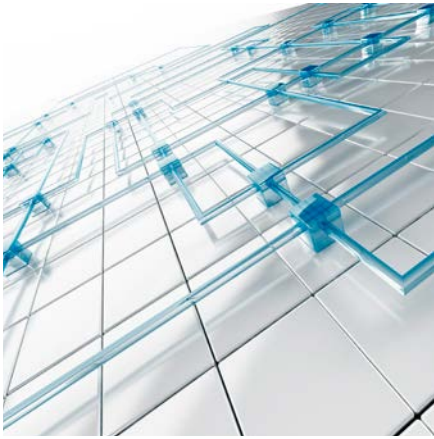
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