The Total Cost of Doing Business with Microsoft® Azure®

Turning over the Azure rocks reveals a plethora of hidden costs and risks

There are plenty of cloud vendor cost comparison websites and tools on the Internet, but they typically only compare infrastructure (server instance) costs. While infrastructure cost comparisons are valuable, it is unfortunate that these websites don't dig into the hidden costs that large (commodity) cloud service providers (CSPs) impose on their unsuspecting service provider partners.

Finding and analyzing the hidden costs of a large CSP is a daunting task. This paper looks at various aspects of doing business with Microsoft Azure. We turned over many rocks to compile the data in this paper, but Azure is a huge, vastly complex business unit with a labyrinth of interconnected, costly, and dependent services. There's a possibility that we missed a few rocks and there may be additional hidden costs and complexities to doing business with Azure.

Before signing on the dotted line, it behooves all service providers to be aware of the hidden costs that add up to the total cost of doing business (TCODB) with any CSP.

Many service providers have told us that part of the Azure challenge is that there's just too much complexity. An example of this complexity is the fact that (as of this writing) there are **81 Azure related service level agreements**[1]**.** To help service providers perform effective due diligence on the CSP market, we created a **CSP Assessment Checklist**[2]**.**

In addition to the complexities of Azure, many of our partners shared a common recurring concern they had with Microsoft; Microsoft is a huge SaaS vendor and our partners said they'd heard of instances where Microsoft leveraged Azure or one of its SaaS offerings (e.g. Office 365) to infiltrate and take over account control in a Trojan Horse manner. This concern is highlighted in a later section titled, "Selling Azure: Friend or Foe?"

As research was being performed for this paper, there was one consistent thought that was validated with every rock we turned over: "this is no way to treat partners (or indirectly), their clients."

[1] https://azure.microsoft.com/en-us/support/legal/sla/
[2] http://www.egenera.com/csp-assessment-checklist/

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Selling Azure: Friend or Foe?

How Azure threatens service provider client relationships and business opportunities.

As is the case with most service providers; client relationships are paramount to success. Many of our service provider partners have told us they began offering cloud services due in part to satisfy client requests. From a service provider perspective, the value of cloud as a cost cutting tool is undeniable. To stay competitive in the age of cloud computing, it's imperative to leverage cloud services.

Service providers have two choices to consider in offering cloud services: stand up their own cloud(s) or partner with a CSP. The problem with standing up a cloud is that the immense upfront costs and complexities are followed by a cost prohibitive, lengthy ROI cycle. Our partners concluded that working with an established wholesale CSP was the prudent and right decision for them.

Some of the business reasons for partnering with a CSP are highlighted in these two white papers:

- Why you shouldn't wait any longer to come into the cloud[3]
- Why you should partner with a CSP to enter the cloud[4]

If you've started down the path of assessing the risk / reward benefits of standing up your own cloud, you've probably determined that you need to partner with a CSP. But, which CSP is the best fit for your business? You can leverage our CSP Assessment checklist[5] for guidance on this part of your cloud journey.

Although this paper is focused on Azure we also performed an in-depth analysis of Amazon Web Services™ (AWS™) which uncovered massive complexities and hidden costs. The AWS paper can be downloaded via the URL shown below[6].

Our investigations have revealed a common theme with both Amazon and Microsoft: poor relationships with their partners.

As previously mentioned one major issue with "partnering" with Microsoft is the fact that they are not just a CSP, they also run a huge SaaS software business. Why does this matter?

It matters because we've heard stories (and you probably have too), where Microsoft has leveraged Azure and/or its various "365" online SaaS offerings to get its proverbial foot in the door of their partner's accounts. And then once in the door they begin touting the benefits of SaaS and cloud directly to the end users leaving their service provider "*partners*" high and dry.

All service providers should ask themselves one simple question: if I go with Azure will Microsoft be a friend, or a foe?

[3] http://www.egenera.com/wp-cloud-cant-wait/
[4] http://www.egenera.com/why-you-should-partner-with-a-csp/
[5] http://www.egenera.com/csp-assessment-checklist/
[6] http://www.egenera.com/total-cost-of-amazon-web-services/

White label support solves all issues – or does it?

Microsoft makes it very easy for end users to move between service providers and even worse, it's very easy for Microsoft to infiltrate your clients, and as the saying goes "once they're in, they're in."

Perhaps "white label" support will help mask the intrusion. Unfortunately, when it comes to Microsoft's **(by invitation only)** Cloud Solution Provider (MCSP[7]) program, there isn't a single mention of **white label support – it doesn't exist**. In its legal documentation, Microsoft refers to its service provider partners as "company" and the end users (your clients) as "customer."

As part of the MCSP program service providers are mandated to obtain their client's ("customer") approval of the Microsoft Cloud Agreement as stated in section 1.2 of the Program Guide for Microsoft Cloud Solution Providers[8]:

1.2 Customer Agreement

*Each Customer must be provided with a Customer Agreement and each Customer must accept the terms of the Agreement in a manner that **creates a legally enforceable contract between Microsoft and the Customer.** The current Customer Agreements are available on the Portal. Company must provide the applicable regional version of the Customer Agreement to the Customer based on the Customer location; some locations may have the Customer Agreement available in multiple languages.*

In addition to end users (your clients) having to agree with the Microsoft Cloud Agreement service providers are required to abide by the contractual obligations found in the Microsoft Cloud Reseller Agreement (MCRA)[9]. Some of the eye-opening requirements found in the MCRA include (but are not limited to):

5. Ordering, Reporting and Fulfillment.

*C. … **Microsoft may send direct communications to Customers** related to the terms of the Customer Agreement or the operation or delivery of the Product. Company must provide Microsoft with accurate contact information for the administrator of each Customer domain. Company will use commercially reasonable efforts to provide information that is accurate and current.*

6. Support.

*If a Customer contacts Microsoft directly for support, **Microsoft at it sole discretion may offer Customer support** or redirect Customer to Company.*

9. Payment.

b. Financial Statements, Credit, Security.

*(i) If not publicly available, **Company will give Microsoft its audited financial statements annually** within ninety (90) days of Company's fiscal year-end. Company also will provide unaudited quarterly financial statements upon request.*

12. Term and Termination.

[7] Microsoft refers to the Cloud Solution provider program as CSP, to avoid confusion with the generic CSP acronym we'll use MCSP as a reference to Microsoft's specific Cloud Solution Provider program

[8] https://msdn.microsoft.com/library/partnercenter/mt156994.aspx#programGuide

[9] https://msdn.microsoft.com/en-us/library/partnercenter/mt156994.aspx#partnerAgreement

b. Termination Without Cause. *Either party can terminate this Agreement at any time without cause and without intervention of the courts by giving the other party not less than thirty (30) days' written notice.* ***Neither party will have to pay the other party any costs or damages resulting from termination of this Agreement without cause.***

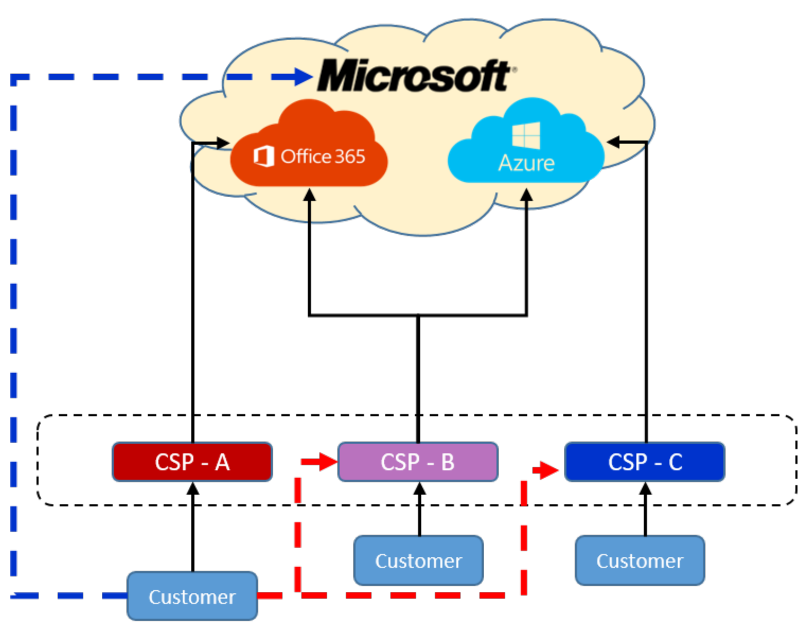
d. Effect of Expiration or Termination.
(iv) If this Agreement is terminated, ***Microsoft reserves the right to communicate with Customers and provide Customers with the option to purchase Products directly from Microsoft*** *or other Microsoft resellers in order to maintain continuity of service for Customers.*

14. Reservation of Rights.
At any time during the term of this Agreement, ***Microsoft may terminate any Customer's status as a Customer.*** *Microsoft will promptly notify Company of the termination of any of its Customers. Following such a notice, Company will immediately stop collecting orders for Products from the terminated Customers. Company will also stop delivery of any program information and materials to the terminated Customer. Termination will not affect the Customer's obligation to file the next required order or report, if any. Termination will not affect Microsoft's right to invoice Company for the order, or Company's obligation to pay Microsoft.* ***If Microsoft terminates a Customer, Company will not have any claim against Microsoft for damages or lost profits resulting from the termination.*** *Company will be entitled to invoice the Customer for the Products that the Customer ordered before termination.*

As shown in the previous pages, not unlike AWS, the MCSP program's various legal documents were crafted in a tone that puts Microsoft first and foremost, leaving its partners to fend for themselves.

It gets worse – Multi-partner scenario:

In the diagram (to the right) assume you are CSP-A. Initially you're providing Office 365 support services to your client. In addition, you're supporting their on-premise server(s).



Now assume your client requests to use the cloud for their servers because theirs are nearing end of life and they've heard how the cloud provides better security and better scalability while eliminating hardware lifecycle issues. But one of the challenges with this scenario is that perhaps your staff doesn't have the experience to provide Azure support or they're not "certified" by Microsoft. From your client's perspective, they have two options:

1. Ask one of your competitors (CSP – B or CSP – C) for cloud services support
2. Go direct to Microsoft for cloud services support

None of these options paint a pretty picture for your business. Both options give your clients reason to look elsewhere and to consider consolidating their O365 support to a service provider that can simplify the picture.

Of course, there is always the option to train and certify staff on Azure. But what will the ROI look like if initially there are only a customer or two asking for cloud? Coming up to speed on Azure technologies is a very expensive training proposition. In addition, partner support subscriptions that Microsoft expects partners to purchase is yet another expense that eats into margins.

The major problem with these options is the fact that the 600-pound gorilla in the room, Microsoft, is waiting in the wings to seize account control away from the service provider. Cloud is very sticky and once customers are in Azure, it can be challenging to move them to a more partner-friendly CSP.

Can it get any worse? To raise the "friend or foe" question to a whole new level, look at some of the “multi-partner” statements found in Microsoft’s CSP FAQ. And although Microsoft broad brushes these statements as being "for the customer," service providers need to understand what the underlying ramifications could be to their services business. **Azure: Friend or foe?**

Page 39: Multi-partner: Overview and how it works

> *Prior to enabling “Multi-partner” capabilities, customers were only able to be associated with a single CSP transacting partner. Once a customer was connected to a CSP transacting partner, that customer was not able to purchase through any other CSP transacting partner. However, some customers may want or need to work with more than one CSP transacting partner. For example, one CSP transacting partner may be an expert in Office 365, while another Partner may specialize in Microsoft Azure.* ***The multi-partner capability makes it possible for Partners to establish a CSP relationship with a customer that already has an existing CSP transacting partner.*** *While this enables multiple CSP transacting partners to work with the same customer tenant, this capability is not designed to migrate or transition any subscriptions or customer ownership from one CSP transacting partner to another CSP transacting partner. Additionally, having more than one CSP transacting partner is solely at the discretion and choice of the customer.*[10]

Multi-partner helps support these example scenarios:

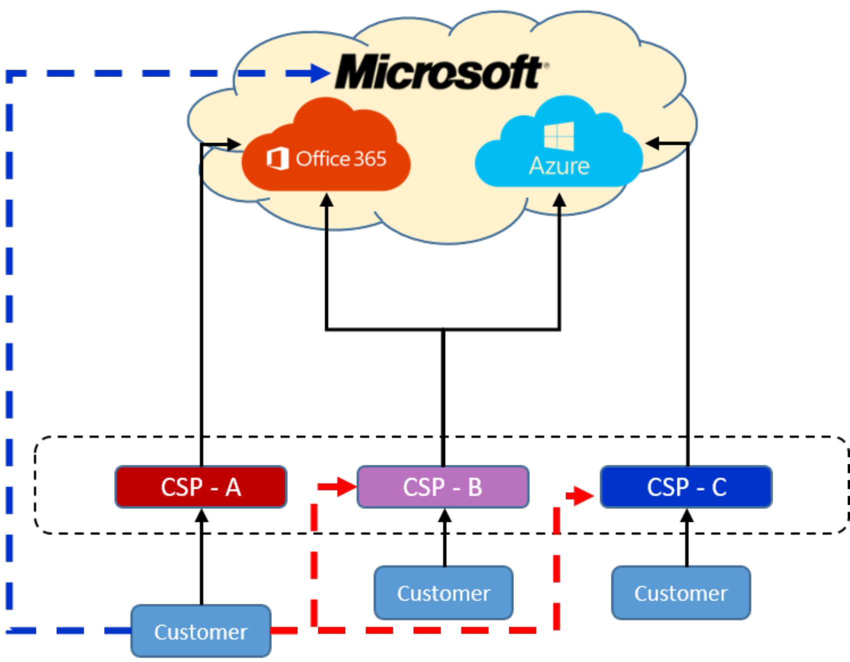
- *A customer has an existing CSP transacting partner that sold it Office 365* ***and then establishes a relationship with a second CSP transacting partner that specializes in Microsoft Azure.***
- *A customer has an existing CSP transacting partner that sold it Exchange Online, and then establishes a relationship with a second CSP transacting partner that specializes in SharePoint Online.*

[10] http://assets.microsoft.com/en-us/cloud-solution-provider-frequently-asked-questions.pdf

Page 51: Can multi-CSP Partner capabilities be used to transition a customer from one Partner to another Partner?

> *Multi-CSP Partner capabilities are designed to enable a customer to work with multiple Partners who specialized in different services.* ***While there are no automated transitions of customers or subscriptions from one Partner to another Partner, this can be accomplished*** *in a manual manner by the customer. To "move" from one Partner to another Partner, the customer would need to establish a relationship with a second CSP Partner and have that Partner provision the desired CSP subscriptions for them. Then, the customer would have to instruct its first Partner that it no longer wants to do business with them and have that Partner suspend its CSP subscriptions. The customer would then continue forward with the second CSP Partner. It's important to note that Microsoft does not have knowledge or, nor enforces, any commercial terms that a Partner may have with its customers. It's the customer's responsibility to resolve these matters with its Partner(s).*[11]

MCSP's support for multi-partner environments makes it relatively easy for end users to move to other service providers (your competitors), as depicted by the dotted red lines shown below. Keep in mind that Microsoft has also made it very easy for end users to come under their control as shown by the dotted blue line.



How to stave off the attack

The best way for service providers to improve their customer "stickiness" and strengthen their relationships is to not use Azure. It is a prudent decision to avoid competing with Microsoft because at the end of the day there are two major issues service providers will constantly have to worry about:

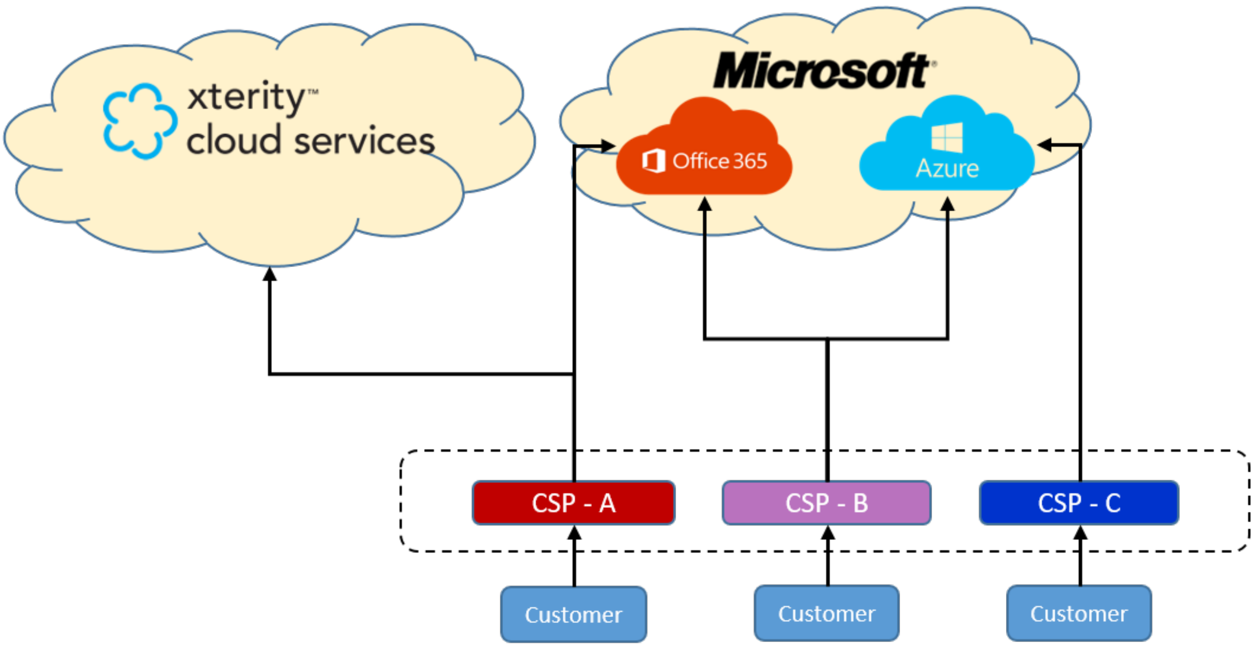
- If Azure (or any large public CSP) is used the service provider ends up in the middle of the very visible pricing wars between the large CSPs (AWS, Azure, Google etc.) as they "race to the bottom." Where does this leave the service provider? As these large CSPs drop their server instance prices, end users will want their prices dropped likewise. Service provider margins will

[11] http://assets.microsoft.com/en-us/cloud-solution-provider-frequently-asked-questions.pdf

be squeezed to unsustainable levels.

- The (back of the mind) fear of using Azure is that Microsoft has been known to leverage Azure and its SaaS business units to infiltrate their partner's accounts. This risk will always be lurking in the background.

A much better picture for service providers is shown below:



With Xterity, CSP-A doesn't have to worry about losing business to competitors (CSP-B, CSP-C) or Microsoft. Xterity wholesale cloud services are available only via. our partners.

Another benefit of working with Egenera is that we don't develop SaaS software. We work with our partners to help them deliver solutions to their clients. We provide cloud services that are leveraged for delivering higher value, higher margin solutions to end users. We do the infrastructure heavy lifting so our partners don't have to.

One of the most interesting data points revealed in the diagram above is that the "blue" competitor (CSP-C) is very exposed to the Azure margins squeeze play previously mentioned. When the margins eventually become unsustainable, there’s an opportunity for CSP-B or Microsoft to pick up the pieces and gain the business.

This section highlighted some of the statements made by Microsoft in various Cloud Solution Provider program documents. When these statements are scrutinized, service providers should pause and assess whether Microsoft is a company they partner with. Friend or foe?

Partner Network / Support / Competency Training requirements = lower margins for your business

This section reveals the **hidden costs of the Microsoft Partner Network™.**

While we witness the behemoth CSPs battle in a highly publicized "**race to the bottom**" pricing war, common sense should see through the smokescreen and the question of "how are they making any money" should surface. But too often the question is never asked because the end users (your clients) only see the "race to the bottom" press releases, which only leaves them asking their service providers when are they going to pass the price reductions onto them.

End users don't see all the hidden costs that service providers must **pay-to-play with the big CSPs**. Service providers (and their margins) are squeezed between end user pricing expectations and the TCODB hidden costs they're faced with. The large CSPs are making money from somewhere other than from their server instance pricing. But where?

Part of the challenge with Azure is that it's an extremely complex maze. This complexity shows up in many facets of Azure, and as is often the case with technology, complexity typically leads to additional costs.

At Egenera, we feel it's outrageous to even think about charging a service provider to partner with us. There's no cost for becoming an Egenera partner. Our philosophy (and practice) highlights the fact that our wholesale Xterity Cloud Services were designed specifically for service provider partners knowing that we're only successful when our partners are successful.

Microsoft Azure Cloud Support – complexity and costs

When service providers try to ascertain which level of cloud support they need for their business, the exercise quickly becomes futile. As they click on the maze of various hotlinks, their browser traverses from link to link opening new tabs to the point where there are a dozen or more tabs open and they're swamped with complexity -- the complexity of trying to work with Microsoft, and more specifically, Azure.

We'll just dive in head first and highlight that the complexity begins when Microsoft mentions its various partner support offerings.[12]

- Microsoft Partner Network
- Microsoft Advanced Support for Partners
- Microsoft Premier Support for Partners

To add to the confusion, there are additional support offerings such as:

- **Premier Support for Cloud Solution Providers**
- **Partner Signature Cloud Support**

[12] https://partner.microsoft.com/en-us/support/partnersupport

And there are various additional "pay to play" requirements:

- Microsoft Partner Network Competencies
- Microsoft Partner Network Action Packs

The support offerings differ in the amount of **costs imposed on the service provider partners**. But one thing is certain with Azure: 24x7x365 support, technical onboarding, and marketing and sales support **all come at a price**.

A common thread in these offerings is that if partners want to move “up the Azure ladder” they are required to **increase their spend with Microsoft**. Just think about that, for Microsoft's partners to generate more revenue for their business (and essentially for Microsoft as well) they are required to invest more of their monies and resources in Microsoft. These hidden costs surface when service providers realize their margins are shrinking with Azure. From Microsoft's perspective, this is a very nice business model, but not so much for its partners.

In the remainder of this paper, red text is used to indicate **additional costs** service providers may have to pay if they go with Azure.

Microsoft Partner Network (MPN) – complexity and costs

As shown throughout this paper, the only way service providers can increase their Azure expertise is by **increasing their investment in Microsoft** (e.g. training, certifications, etc.).

A feature comparison of the Microsoft Partner Network, Advanced Support for Partners, and Premier Support for Partners programs are shown in the table below:

Support Plans ⟶	Microsoft Partner Network Technical Benefits	Microsoft Advanced Support for Partners	Microsoft Premier Support for Partners
Microsoft Products and Services Supported	Cloud Hybrid On-premises	Cloud Options for Hybrid & On-premises	Cloud Hybrid On-premises
Support Delivery Method	Remote	Remote	Remote, On-site
Submit Support Tickets On Behalf of End Customer	✓	✓	✓
24x7 Technical Support	✓	✓	✓
Case Severity and Target Initial Response Times	Severity A: 2 hours Severity B: 4 hours Severity C: 8 hours	Severity A: 1 hours Severity B: 2 hours Severity C: 4 hours	Severity A: 1 hours Severity B: 2 hours Severity C: 4 hours
24x7 Critical Situation Support	--	--	✓
Support Account Management	--	Pooled	Designated
Escalation Services	--	✓	✓
Advisory "How To" Services	✓	✓	✓
Technical Presales Assistance	✓	**Available with MPN subscription**	**Available with MPN subscription**

Support Plans ⟶	Microsoft Partner Network Technical Benefits	Microsoft Advanced Support for Partners	Microsoft Premier Support for Partners
Cloud Solution Provider API Support	Self-guided and Packaged	Packaged	Customizable for you and your customers
Proactive Support Services	Self-guided and Packaged	Packaged	Customizable for you and your customers
Developer Mentoring and Coaching	--	--	**Optional***
Designated Support Engineering	--	--	**Optional***
Minimum Price (USD)**	**Included in MPN Competency or MAPS subscription**	**$1,250/month**	**$28K/year**
* Available for an additional fee			
** Price listed is USD. Local prices may vary.			

As shown above, all support plans require partners to subscribe to Azure support. This "support plan" requirement increases the TCODB with Azure. None of the "support costs" are mentioned in Azure public cost comparisons.

Increasing Azure expertise is one of the requirements for advancing up the Azure partner ladder. To increase Azure expertise, Microsoft's partners end up paying for their employees to attend training classes so they can pass the requisite Azure certification exams. On one hand this is a good thing, but on the other hand, this creates a catch-22 problem. Once employees become Azure certified they immediately become more attractive in the job market.

Retention of skilled employees is a common challenge for service providers, and employees with cloud expertise are in high demand. What happens if a service provider pays for an employee to become Azure certified just to see that employee (and the certification they paid for) walk out the door? This is a risk in doing business with Microsoft Azure and all the large CSPs.

Microsoft Partner Network (MPN) – Competencies

Microsoft likes to mention that service providers can differentiate themselves by achieving various "competencies." Most of the large CSPs view their partner programs as revenue sources. Remember, the "race-to-the-bottom" instance pricing wars only means that revenue comes from somewhere else, and that somewhere else happens to be their partner's pockets.

At Egenera we feel that it's our duty to enable our partners to be more productive without making them pay to obtain the required skillset. We don't impose margin reducing costs on our partners who want to be successful. We treat all our partners equal and don't charge a single penny for training, 24x7x365 support, or partner program membership.

Per the "Microsoft's Competency partners" website:[13]

[13] https://partner.microsoft.com/en-us/membership/competencies

> *Microsoft competencies are designed to meet your customers' needs and be recognizable to prospective ones. Join the elite tier of Microsoft Partners and stand out from your peers.*

The only problem with this statement is that Microsoft is telling all their partners that they can stand out from each other by paying for, and obtaining Microsoft competencies. So, if every partner obtains the same competencies how exactly is that differentiation?

At the end of the day, we all know whose bottom line benefits from the associated coursework and certification exam costs.

Microsoft recently announced that they're planning to fully retire a dozen competencies, going from 29 down to 17. Several of the competencies being retired are eye-opening actions that should be viewed as being "less than" friendly to existing partners:

- Customer Relationship Management
- Distributor
- Hosting
- Midmarket Solutions Provider
- Volume Licensing

It must be noted that over the past couple of years Microsoft has introduced (and emphasizes) several new **cloud competencies**. All the cloud competencies appear to be surviving the reductions.

Think what these specific competency retirement actions are saying.

For example, Microsoft is retiring the Customer Relationship Management competency. But they're replacing it, and fully supporting a new competency focused on their new Dynamics 365 SaaS offering.

In addition, their Business Applications competency refers to "Cloud CRM competency" and the Enterprise Resource Planning competency is associated with Dynamics ERP and Dynamics CRM **online**.

These moves can be interpreted as a full-on assault of service providers that previously, and perhaps currently, built their businesses supporting client on-premise solutions. If you're one of these Microsoft partners that could easily be displaced by a "365" online offering, do you really want to use Azure?

Also noteworthy is the fact that in July 2016 Microsoft changed some competency thresholds as shown in the table below[14]:

July 2016 – New competency thresholds

Effective August 2016, there will be new thresholds to earn the Cloud Platform and Enterprise Mobility

Management competencies. The details for the new thresholds will be as follows.

Cloud Platform (hosting option only)

Silver:

- Developed market thresholds: US$100,000 SPLA and/or Azure Consumption Revenue via CSP TTM
- Emerging market thresholds: US$25,000 SPLA and/or Azure Consumption Revenue via CSP TTM
- The Microsoft Azure requirement is waived in markets where Azure is not available

Gold:

- Developed market thresholds: US$500,000 SPLA and/or Azure Consumption Revenue via CSP TTM, of which US$15,000 must be from Azure CSP revenue
- Emerging market thresholds: US$25,000 SPLA and/or Azure Consumption Revenue via CSP TTM, of which US$5,000 must be Azure CSP revenue
- The Microsoft Azure requirement is waived in markets where Azure is not available

Now we'll look at the "Cloud Platform & Infrastructure" silver and gold competency path requirements[15].

Azure Consumption Option	Silver	Gold
	The Performance Path is ideal if you prefer to prove your skills by passing tests, exams, and/or assessments. Pass a specific number to achieve your requirement. **Complete the following five steps to earn the Silver Cloud Platform competency:** **1. Meet the performance requirements** Developed markets: • Partners must demonstrate US$15,000 Azure customer consumption and/or Azure partner consumption within the previous 12 months. Developing markets: • Partners must demonstrate US$10,000 Azure customer consumption and/or Azure partner	The Performance Path is ideal if you prefer to prove your skills by passing tests, exams, and/or assessments. Pass a specific number to achieve your requirement. **Complete the following five steps** to earn the Gold Cloud Platform competency: **1. Meet the performance requirements** Developed markets: • Partners must demonstrate US$100,000 Azure customer consumption and/or Azure partner consumption within the previous 12 months. Review the country list of developed and developing markets.

[14] https://partner.microsoft.com/en-us/support/whats-new
[15] https://partner.microsoft.com/en-us/membership/cloud-platform-competency

Azure Consumption Option	Silver	Gold
	consumption within the previous 12 months. Review the country list of developed and developing markets. Partner will need to be associated as the Azure Transacting Partner or Digital Partner of Record to qualify. Get more information. **2. Pass the exams or assessments** One person must pass one of the following assessments: • Technical Assessment for Using Microsoft Azure for Datacenter Solutions • Technical Assessment for Using Azure for Data Analytics and Data Platform Solutions • Technical Assessment for Using Microsoft Azure for Application Development • Technical Assessment for Using Azure for Internet of Things Solutions Or, one person must pass one of the following exams: • Exam 70-532: Developing Microsoft Azure Solutions **($165.^{00}USD)** • Exam 70-533: Implementing Microsoft Azure Infrastructure Solutions **($165.^{00}USD)** • Exam 70-534: Architecting Microsoft Azure Solutions **($165.^{00}USD)** • Exam 70-473: Designing and Implementing Cloud Data Platform Solutions **($165.^{00}USD)** • MCSA: Linux on Azure **Training content for the exams and certifications can be found on the Partner University Learning Paths.** If your employees or contractors pass the competency exams, you can count those exams toward attaining multiple Silver competencies. Tip: Partners can work on obtaining their customer evidence and organization profile requirements before completing the technical requirements listed above. **3. Provide customer evidence** **Your organization must have three customer references that feature how, within the previous 12 months, you have provided solutions based on the products and technologies associated with this competency.**	• Partner will need to be associated as the Azure Transacting Partner or Digital Partner of Record to qualify. Get more information. **2. Pass the exams or assessments** Two people each must complete one of the following assessments: • Technical Assessment for Using Microsoft Azure for Datacenter Solutions • Technical Assessment for Using Azure for Data Analytics and Data Platform Solutions • Technical Assessment for Using Microsoft Azure for Application Development • Technical Assessment for Using Azure for Internet of Things Solutions Or, two people each must pass one of the following exams: • Exam 70-532: Developing Microsoft Azure Solutions **($165.^{00}USD)** • Exam 70-533: Implementing Microsoft Azure Infrastructure Solutions **($165.^{00}USD)** • Exam 70-534: Architecting Microsoft Azure Solutions **($165.^{00}USD)** • Exam 70-473: Designing and Implementing Cloud Data Platform Solutions **($165.^{00}USD)** • MCSA: Linux on Azure **Training content for the exams and certifications can be found on the Partner University Learning Paths.** If your employees or contractors pass the competency exams, you can count those exams toward attaining multiple Gold competencies. Tip: Partners can work on obtaining their customer evidence and organization profile requirements before completing the technical requirements listed above. **3. Provide customer evidence** **Your organization must have five customer references that feature how, within the previous 12 months, you have provided solutions based on the products and technologies associated with this competency.** After a reference has been approved by both your customer and Microsoft, it can be used toward earning or renewing the competency for up to two years.

Azure Consumption Option	Silver	Gold
	After a reference has been approved by both your customer and Microsoft, it can be used toward earning or renewing the competency for up to two years. Requests for a reference can be submitted through the Partner Membership Center. Click here to see a sample customer reference email. Please note that Microsoft may not contact all of your submitted customer references, and some of these may be auto-approved by our system. **4. Complete your organization's profile** Your account administrator must provide specific information about your organization through the Partner Membership Center. **5. Pay the competency fee** The fee is due one time per year—no matter how many competencies your organization earns. The fee varies by location. Pay the fee through the Partner Membership Center. According to the URL that you are currently visiting, **your fee would be $1,530**, not including applicable local taxes and fees. This fee will also be presented to you during the enrollment process. Your actual fee will be based on the physical location of your company.	Requests for a reference can be submitted through the Partner Membership Center. Click here to see a sample customer reference email. Please note that Microsoft may not contact all of your submitted customer references, and some of these may be auto-approved by our system. **4. Complete your organization's profile** Your account administrator must provide specific information about your organization through the Partner Membership Center. **5. Pay the competency fee** The fee is due one time per year—no matter how many competencies your organization earns. The fee varies by location. Pay the fee through the Partner Membership Center. According to the URL that you are currently visiting, **your fee would be $3,940**, not including applicable local taxes and fees. This fee will also be presented to you during the enrollment process. Your actual fee will be based on the physical location of your company

The point being made here is the fact that **Microsoft makes money off its partners** who are just trying to sell more Microsoft product. It's a very compelling win-win strategy for Microsoft, not for their partners.

It all adds up – Microsoft Partner Network complexity and costs

Now let's highlight some of the cloud competency "path" training costs.

	Assessment	Cost	Comments
Exam	Exam 70-533: Implementing Microsoft Azure Infrastructure Solutions	Exam Cost: $165[16]	
Instructor-led training	20533: Implementing Microsoft Azure Infrastructure (3 - 5 Days)	Learning Partner (training) sample costs (→) $2,695 - $3,295	Sampling of Microsoft Learning Partner training costs (as of 10/25/16): • Solartech $2,695[17] • Certification Camps $3,295[18] • ONLC Training Centers $2,995[19]

The figures shown in the table above reflect only coursework and exam costs, and not all the additional costs such as time away from work etc. While it might be possible to receive discounts for some of the costs mentioned in this document, the point here is; why should service providers have to pay to become a more effective Azure CSP? After all these extra costs imposed by Microsoft are taken into consideration, it's becoming clearer to see how the TCODB with Azure means higher costs and smaller margins for service providers. This information reveals how Microsoft makes its cloud revenue somewhere less conspicuous than in its highly visible public (instance pricing) strategy.

Egenera Partner Program – simplicity and no costs

At Egenera, we don't have different partner program levels. Qualifying for our partner program is simple and straightforward. After signing a Master Services Agreement (MSA), you'll be on your way to delivering high margin cloud services without the hidden costs or sales commitments like the large CSPs.

[16] https://www.microsoft.com/en-us/learning/exam-70-533.aspx
[17] http://solartech.us/20533-implementing-microsoft-azure-infrastructure-solutions/
[18] https://www.certificationcamps.com/technical-training/20533-implementing-microsoft-azure-infrastructure-solutions/
[19] https://www.onlc.com/outline.asp?ccode=A20533

How Azure's 81 SLAs add up to lower margins for your business

This section focuses on **the hidden costs and complexities of Azure Service Level Agreements.** And yes, we used the plural form of "agreement" because when it comes to Azure SLAs there's an exorbitant amount of them to decipher.

The large CSPs are making money from somewhere other than from their "race to the bottom" instance pricing. End users don't see all the hidden costs that service providers must pay to play with the big CSPs. **Service provider margins are squeezed between client pricing expectations and the TCODB hidden costs they're faced with.**

Part of the challenge with assessing Azure's SLA processes is that there are just too many to figure out. This complexity surfaces in many facets of Azure, and as is often the case with technology, complexity typically leads to additional costs (and lower margins for service providers).

When it comes to Azure SLAs, a reliable GPS is required to navigate the maze.

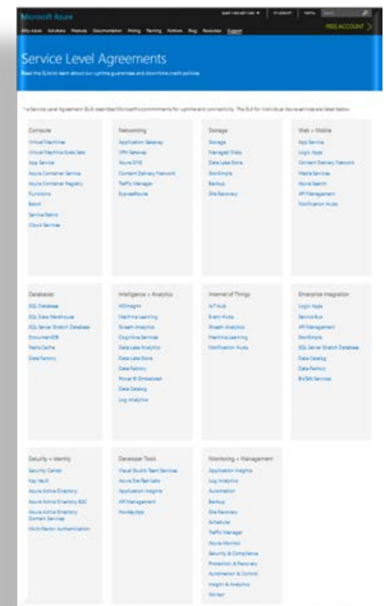
Microsoft Azure SLA(s) – complexity reigns supreme

In the screenshot (to the right) of the Azure SLA page[20] you can see that Microsoft has a separate SLA for every individual Azure service.

As of this writing, there are 81 Azure related SLAs.

Why does it have to be so complex? If a client experiences an outage, which SLA has been violated?

While we may never know the answer to these questions, we can safely speculate that when it comes to seeking compensation for an outage, very service providers have the time, resources, patience, or stamina to wade through the various intertwined individual product SLAs to file a claim.



https://azure.microsoft.com/en-us/support/legal/sla/

In our due diligence of large CSP SLAs there are always common recurring themes:

1. They are too complex
2. They are written to protect the CSP, not their partners.

In this section, we "clear the smoke" for you by comparing the Azure SLA (or SLAs) that are most applicable for a comparison with Xterity's succinct SLA.

Lets first look at what Microsoft refers to as: **SLA for Virtual Machines**[21]

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[20] https://azure.microsoft.com/en-us/support/legal/sla/

[21] https://azure.microsoft.com/en-us/support/legal/sla/virtual-machines/v1_5/

"For all Virtual Machines that have ***two or more instances deployed*** *in the same Availability Set, we guarantee you will have Virtual Machine Connectivity to at least one instance at least 99.95% of the time."*

Yes, you read that correct. **You must have two (or more) instances in the same availability set before a VM is covered under the SLA**. You must buy a second virtual machine for every VM you need covered, so your VM (instance) cost doubles – but it's not reflected in **online cloud cost comparisons or in the "cloud cost reduction" press releases.**

What is meant by "Virtual Machine Connectivity?" Per the SLA for Virtual Machines:[21]

"Virtual Machine Connectivity" is bi-directional network traffic between the virtual machine and other IP addresses using TCP or UDP network protocols in which the virtual machine is configured for allowed traffic. The IP addresses ***can be*** *IP addresses in the same Cloud Service as the virtual machine, IP addresses within the same virtual network as the virtual machine* ***or*** *public, routable IP addresses.*

The "wiggle room" terms used above (e.g. "**can be**" and "**or**") are examples of the Microsoft protective tone contained within their SLAs.

Also, don't forget that the SLA you're buying into is only 99.95%. Egenera's Xterity Cloud Services includes standard a 99.99% infrastructure uptime SLA and partners aren't made to deploy 2x virtual machines. Egenera is a cloud services provider, and fundamentally, we believe that the onus is on us to provide highly reliable cloud services to our partners so they can succeed and grow their businesses. It could be argued that Microsoft is more concerned about their business than they are their partner's businesses.

What exactly do these SLA percentages mean?

We've already seen how the 99.95% Azure virtual machine SLA **increases your costs and reduces your margins**. Looking at the percentage of allowable downtime the Azure SLA allows for approximately 5x more downtime (before you can file a claim) than the Xterity SLA. As previously stated, when you assess CSPs it behooves you to look below the surface to reveal the TCODB with the CSP and take into consideration the "tone" of the SLA. Who was it written to protect? What kind of a partner will they be?

	Daily	Weekly	Monthly	Yearly
99.9% SLA	1m 26.4s	10m 4.8s	43m 49.7s	8h 45m 57.0s
99.95% SLA	43.2s	5m 2.4s	21m 54.9s	4h 22m 58.5s
99.99% SLA	8.6s	1m 0.5s	4m 23.0s	52m 35.7s
Source: https://uptime.is/				

The Xterity cloud architecture has built-in, time-tested high availability (failover) technology that allows us to not only stand behind our 99.99% SLA, but to consistently surpass the uptime guarantee.

When you see Microsoft's "race to the bottom" pricing, you can rest assured that they've figured out how to make their revenue numbers using hidden (clever) costs such as their "pay-for-SLA" scheme. Service providers need to **beware of the "sleight of hand" low instance pricing** numbers.

After reading the SLA description mentioned above, you may be wondering how Microsoft defines an "Availability Set."

> *"**Availability Set**" refers to two or more Virtual Machines deployed across different Fault Domains **to avoid a single point of failure**[22].*

Whose single point of failure is being avoided? The single point of failure is imposed by the Azure architecture. Dissecting this further leads to the reasonable conclusion that to protect against Azure's architected single point of failure service providers must hand over more money to Microsoft. This "practice" increases costs for service providers, thereby lowering their margins.

This is yet another example of an SLA approach that service providers should be leery of. Just think about it: what kind of a CSP makes their partners buy additional resources to ensure they're protected from a single point of failure; a single point of failure that's created by the CSPs very own architecture?

This is a very effective business model for Microsoft. But wait, let's peel back a few more layers of Azure complexity and see what else we expose.

Assume a service provider is supporting a client's virtual machine and it uses Geo Redundant Storage (GRS as shown in the table below), and a VPN gateway.

Now is a good time to peel back the layers on what Microsoft refers to as: **SLA for Storage**[23]

Azure offers different storage "account" options. By default, storage accounts are set up to be geographically redundant (GRS shown below).

> *"**Geographically Redundant Storage (GRS) Account**" is a storage account for which **data is replicated synchronously within a Primary Region and then replicated asynchronously to a Secondary Region. You cannot** directly read data from or write data to the Secondary Region associated with GRS Accounts.*
>
> *"**Locally Redundant Storage (LRS) Account**" is a storage account for which **data is replicated synchronously only within a Primary Region**.*
>
> *"**Read Access Geographically Redundant Storage (RA-GRS) Account"** is a storage account for which **data is replicated synchronously within a Primary Region and then replicated asynchronously to a Secondary Region. You can directly read data from, but cannot write data to, the Secondary Region associated with RA-GRS Accounts.***

	Data is replicated synchronously within a primary region	*Data is replicated asynchronously to a secondary region*	*Data can be read directly from the secondary region*	*Data can be written directly to the secondary region*
Geographically Redundant Storage (GRS) Account	*Yes*	*Yes*	*No*	*No*
Locally Redundant Storage (LRS) Account	*Yes*	*N/A*	*N/A*	*N/A*

[22] https://azure.microsoft.com/en-us/support/legal/sla/virtual-machines/v1_5/
[23] https://azure.microsoft.com/en-us/support/legal/sla/storage/v1_1/

Read Access Geographically Redundant Storage (RA-GRS) Account	*Yes*	*Yes*	*Yes*	*No*

Now that the storage options are perfectly clear (sarcasm). Lets review the SLA "guarantees" verbiage:

> *We guarantee that at least 99.99% (99.9% for Cool Access Tier) of the time, we will successfully process requests to read data from Read Access-Geo Redundant Storage (RA-GRS) Accounts, provided that failed attempts to read data from the primary region are retried on the secondary region.*
>
> *We guarantee that at least* ***99.9%*** *(99% for Cool Access Tier) of the time, we will successfully process requests to* ***read data*** *from Locally Redundant Storage (LRS), Zone Redundant Storage (ZRS), and* ***Geo Redundant Storage (GRS) Accounts****.*
>
> *We guarantee that at least* ***99.9%*** *(99% for Cool Access Tier) of the time, we will successfully process requests to* ***write data*** *to Locally Redundant Storage (LRS), Zone Redundant Storage (ZRS), and* ***Geo Redundant Storage (GRS) Accounts*** *and Read Access-Geo Redundant Storage (RA-GRS) Accounts.*

Now lets look at what's referred to as **SLA for VPN Gateway**[24]

> *We guarantee 99.9% availability for each* ***Basic Gateway for VPN*** *or Basic Gateway for ExpressRoute.*
>
> *We guarantee 99.95% availability for each Standard Gateway for VPN or Standard Gateway for ExpressRoute.*
>
> *We guarantee 99.95% availability for each High Performance Gateway for VPN or High Performance Gateway for ExpressRoute.*

Follow the data path.

To be protected under Azure's virtual machine SLA your client requires 2x VMs. Assuming all requirements are met the VM has a 99.95% SLA.

But, following the data path we see that there are additional SLAs that come into play. For the GRS (storage) Account the SLA is 99.9%. And the networking SLA is also 99.9%.

Following the data path, we discover that the storage and networking SLAs are the "weak links" in the Azure SLA story.

Therefore, isn't the Azure SLA effectively 99.9%? Doesn't it appear that the 99.95% virtual machine SLA is gated by the 99.9% storage and/or networking SLAs?

[24] https://azure.microsoft.com/en-us/support/legal/sla/vpn-gateway/v1_2/

Azure SLAs – minus all the sleight of hand babel

When it comes to Azure, service providers must pay for twice as many virtual machines as expected to receive any SLA protection whatsoever.

But, if we follow the data path it's quickly realized that the virtual machine is surrounded by components (networking and storage) that have SLAs of only three 9s (99.9%).

Some thought provoking questions to ponder:

- Why does this have to be so complex?
- Why so many SLAs?
- How are service providers going to explain to client's that although they are unable to reach a server due to a VPN gateway error, the server they're trying to reach is actually SLA compliant because it is up and running?
- If there's a server that's unable to read or write data to storage? Which SLA is being violated?

Azure SLAs – Summary

At Egenera, we believe in simplicity and in providing our partners the support they need to be successful. That's why we provide our partners with a clear and concise SLA, which reflects our principle of doing whatever it takes to help our partners achieve success.

Summary

This paper was written with the goal of equipping you with the information you need to make a wise, prudent, and informed decision on who you should partner with for your journey into the cloud.

Many of our partners came to us after experiencing the TCODB shock with a large CSP. They found us by searching for a wholesale cloud services provider that met some critical criteria:

- Experience with cloud technologies
- 24x7x365 partner support at no additional charge
- Cost efficiency across all aspects of cloud services including infrastructure, support, and partner programs
- Reliable, scalable enterprise-class hardware hosted in world-class, secure datacenters
- Intuitive, full-service partner cloud services portal
- An SLA that was written to protect the partner, ensuring a high level of cloud services availability

Selecting the right CSP enables service providers to evolve their business models to include higher value, higher margin services on top of the reliable “heavy lifting” cloud infrastructure services provided by the CSP. With higher value services comes stronger client loyalty (stickiness), which in the end, gives them pause when it comes to looking elsewhere.

Although trying to determine the final TCODB with any large CSP is like trying to grab a handful of Jell-O® the main goal of this paper is to help service providers understand how important it is to look beyond the publicly advertised "race to the bottom" server instance costs. That's not the whole story.

Service providers need to look under the surface to determine:

- What the real costs are for the 24x7x365 support you need from your CSP
- What the real costs and complexities are for modifying a configuration to meet your client’s changeable workload requirements
- What the real costs are for participating in the CSPs partner program
- If there are data transfer costs for moving data in and out of the cloud
- If there are time-sink (time is money) costs imposed on you by the CSPs complexity

The cloud is here, and now is the time to start or realign your journey. Just be sure you’re working with a cloud services **partner**, not just a cloud services provider. A cloud services **partner** aligns their success with yours.

Egenera's Xterity Cloud Services

Egenera was founded in 2000 to deliver "tomorrow's datacenter – today." Since then we've been providing highly reliable, advanced server virtualization/converged infrastructure solutions. Building on this experience, we developed Xterity Cloud Services. Xterity Cloud Services provides an intuitive, drag-and-drop cloud management solution that simplifies all cloud workflow processes including customized design, deployment, scalability, management, pricing, margin analysis, and billing.

Without the inherent complexities found in other cloud services, Xterity partners are liberated to focus on providing higher value, higher margin services to their clients.

Xterity Cloud Services combine the security and reliability of Tier 3 datacenters with enterprise-class hardware and software to deliver wholesale managed private and public cloud IaaS services including bare metal, disaster recovery, backup, and migration.

24x7x365 partner support and assigned account management is included at no additional cost to help ensure success for our partners and their clients.

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