ORACLE

Bowmicro Builds Hosted Cloud Success with Oracle Infrastructure

A Case Study

INTRODUCTION

Many companies are either unable or reluctant to maintain their own data centers. Smaller companies in particular find this endeavor challenging due to budget or resource limitations. Having your own data center requires lengthy planning cycles, architecture designs, pricey equipment purchases, implementation and maintenance cycles. These are expensive long-term investments. Data centers also require a skilled IT labor force paid expensive salaries to manage and maintain them. This is why leveraging a trusted Service Provider (SP) that can deliver managed cloud solutions is a valuable alternative to many businesses. This model allows companies to consume ready-made IT services for significantly lower operational and capital expenditure costs. Companies can also more easily scale IT resources and capacity when needed with hosted cloud solutions. This paper explores how one such company, Bowmicro Ltd. (博微计算机有限公司), offers its clients cloud-based (SaaS, IaaS) solutions built on Oracle infrastructure software.

About Bowmicro

Bowmicro Ltd. (博微计算机有限公司) is a leading software company that provides managed data center cloud solutions and professional services in China. Bowmicro is a nationally certified and fully licensed high-tech company. The company offers their clients enterprise-grade SaaS and IaaS solutions at affordable rates. Bowmicro's cloud-based model provides offering to a wide range of customer industries and verticals. These include government, financial, telecommunications, and internet providers. Bowmicro also has many clients in the rapidly growing Chinese small and midsize business (SMB) market.

Why Bowmicro Chose Oracle

Bowmicro is a longstanding member of the Oracle PartnerNetwork (OPN) for many years. They work with and use many Oracle technologies to build their solutions. For example, Bowmicro's SaaS offering includes Oracle PeopleSoft amongst other applications. Underlying these SaaS instances is an IaaS foundation built using Oracle x86 Servers, Oracle Linux, and Oracle VM.

These combined infrastructure solutions provide a highly secure and available architecture for a low total cost of ownership. Oracle x86 Servers allow customers to run workloads on industry-standard servers with high security and performance. End-to-end Oracle engineering and trusted boot capabilities increase workload security. These are also the same servers used to build Oracle Cloud Infrastructure and Oracle Engineered systems.

> "Oracle Linux and Virtualization provide the backbone for our cloud offerings. These solutions have optimized our workloads and have minimized operational costs while providing maximum system performance across the stack."
>
> **-Suping Dong (董素坪)**
> President and Founder, Bowmicro Ltd.

> "Service Providers are valuable partners and can help deliver solutions into markets. Having Bowmicro select our Oacle Linux and Virtualization solutions for their cloud infrastructure is testament to the distinct technical and business advantages our solutions provide. "
>
> **-Honglin Su (苏虹林)**
> Senior Director Product Management, Oracle Corporation

Oracle x86 servers include Oracle operating systems and virtualization software at no extra charge, helping Service Providers such as Bowmicro eliminate hidden infrastructure expenses and reducing total cost of ownership (TCO).

An open and complete operating environment, Oracle Linux was a natural selection as the OS for this cloud-based IaaS and SaaS offering. Oracle Linux was selected by Bowmicro as the cost-effective and the high-performance choice. Oracle Linux delivers virtualization, management, and cloud native computing tools, along with the operating system, in a single support offering. It is also 100% application binary compatible with Red Hat Enterprise Linux.

Both Oracle Linux and Oracle VM solutions are backed worldwide by affordable enterprise-quality support for both Oracle and certified third-party solutions. For all of these reasons, this was a natural fit to power Bowmicro's managed cloud offering.

Bowmicro's infrastructure layer is also available separately to their clients as a standalone IaaS offering. The Oracle IaaS layers support 3rd party solutions, in addition to any Oracle workloads.

To ensure an optimal customer experience, both Bowmicro's SaaS and IaaS offerings include 24x7 Service Level Agreement (SLA) terms with localized support.

Oracle Infrastructure Benefits

The Oracle hardware and software infrastructure solutions underpinning Bowmicro's SaaS and IaaS cloud offerings provide customers a reputable and trusted IT brand. There are also many technical benefits from using Oracle solutions to power their data centers. Oracle VM virtualization software made enterprise applications easier to deploy, manage, and support.

Since using Oracle Linux, Bowmicro better meets their client SLAs with increased system availability. Their IT Operations team leverages the Spacewalk feature to manage and automates many administrator tasks. They also use Oracle VM templates for Oracle Applications. Since these are pre-built and pre-installed on Oracle Linux, it reduces the time needed to set up an environment. For example, what used to take the Bowmicro IT team 2-3 days now only requires a few hours to setup.

How Bowmicro Solutions Meet Customer Needs

While it is impossible to anticipate every business or technical need, some are constant and predictable. One such example is workload capacity. Sometimes more capacity is required, such as during a busy holiday season. Whereas at other times, less capacity is needed after the holiday period. Whatever their particular requirements may be, a company needs infrastructure flexibility to either easily grow or reduce their capacity. They also need any technical issues resolved quickly and easily. In response to these needs, the Bowmicro portfolio includes offerings such as Verticalized Cloud Infrastructure and Customer Service Portals.

Verticalized Cloud Infrastructure

This offering includes both _Infrastructure Units_ and _Verticalized Cloud Resources_. The _Infrastructure Units_ solution delivers flexible resource management. This design facilitates system operations for new workload demands, ranging from a larger company needing to spin up additional compute resources or a smaller company just beginning to put some workloads online. It also provides customers with an isolated and dedicated highly available infrastructure for data privacy. With this design, each Infrastructure Unit has 2 control nodes and 20 computing nodes. It also includes third-party switches and storage. Units can be deployed either independently or clustered together depending on capacity needs.
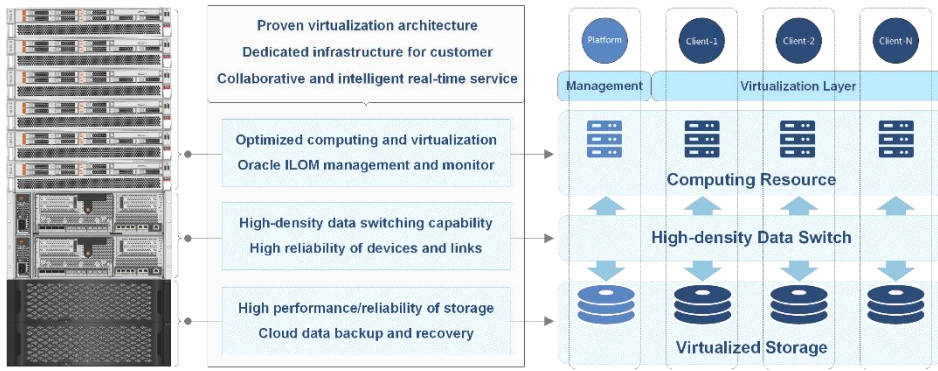
Figure 1.1 *Infrastructure Units*

The *Verticalized Cloud Resources* solution maximizes compute resources across storage and virtualization layers. This includes CPU and memory utilization on the Oracle Virtualization layer. It also include IOPS and throughput on the storage layer. These innovative design efficiencies ensure a cost-effective customer offering.
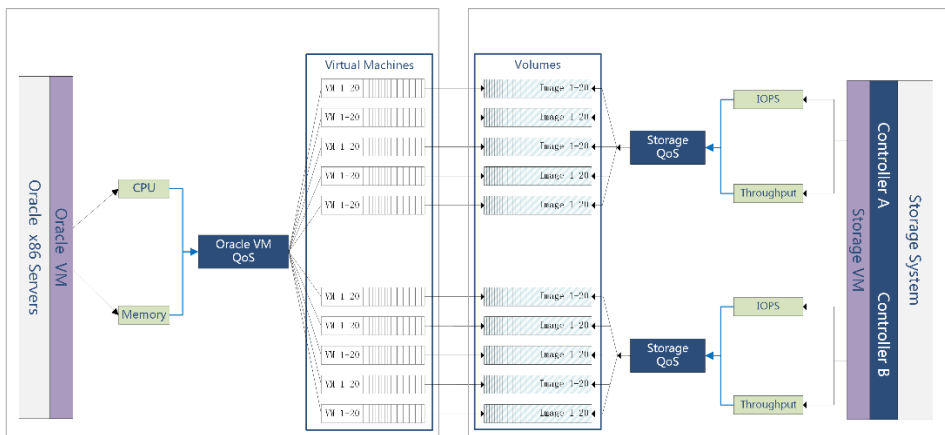

Figure 1.2 *Verticalized Cloud Resources*

Customer Support Portal

Bowmicro's *Customer Support Portal* is a highly flexible and centralized platform connecting the service resource to customers. The portal serves as central pane of glass to easily monitor the behavior and status of several applications. On the backend, the system generates support tickets automatically when incidents occur. These tickets are routed to Bowmicro's Support team for immediate triage and resolution. This automated process saves clients the time otherwise needed to identify, file, log, and monitor incidents. Which in turns saves their clients valuable labor time and money. Additionally, Bowmicro's team usually can resolve most incidents without needing to involve the client. This saves on time by avoiding unnecessary delays which often happen during a back-and-forth exchange between companies. Lastly, the portal also provides an audit capability. The history of all support tickets is captured for tracking purposes. This provides customers full transparency for their records and analytical needs.
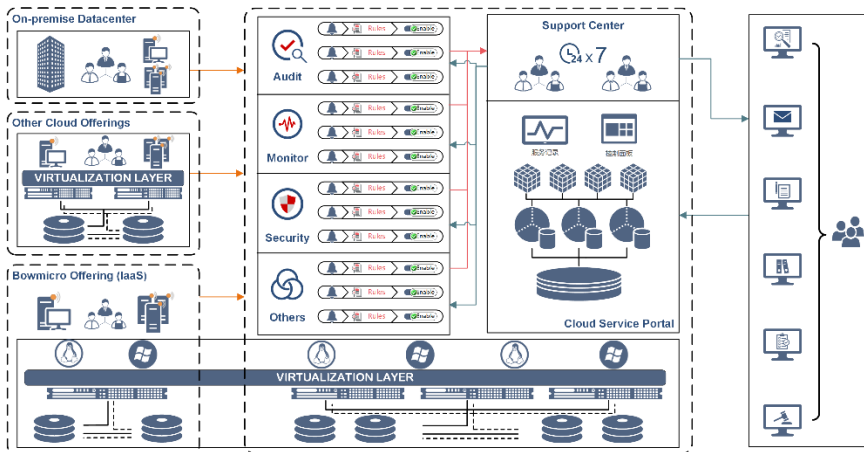
Figure 1.3 *Customer Support Portal*

CONCLUSION

There is a growing need for Service Providers who offer managed cloud services. This business model allows companies to focus on their core business, rather than IT operations. However, not all service provider offerings are equal. The technologies chosen by the service provider to build their solutions matter. The technology selection will directly affect an enduser's overall business and IT experience. In this sense, choosing a service provider who is using high quality and trusted products is mission critical. For these reasons, Bowmicro offers their customers confidence knowing their innovative solutions are based on Oracle.

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