CASE STUDY

Accelerating Global Telecom Application Deployment Using Microland's Innovations in Kubernetes-based Flexible Containerized Applications

Overview of the client

As The client is a prominent Global Telecommunications, IT, and Consumer Electronics manufacturing corporation operating in over 100 countries, facing challenges in deploying containerized telecom applications across diverse platforms. Microland engineered a comprehensive solution, starting with the design of a versatile containerization platform. This enhanced flexibility enabled the client's applications to adapt to any platform seamlessly, ultimately ensuring an accelerated time-to-market of their valuable services to their Telecom customers.

Challenges Faced by the Customer:

The client encountered an array of challenges while deploying its containerized telecom applications across diverse platforms, given the intricate nature of these applications that spanned financial aspects, security measures, routing, and business logic for subscriber management.

The management of over 700 applications proved challenging in ensuring smooth functionality across different platforms. The complexity escalated when an end customer opted for a relatively unknown platform, giving rise to concerns regarding integration and performance in diverse environments. Additionally, the client faced delays in application validation, impacting go-live timelines.

Adapting to various platforms while maintaining application readiness became an imposing hurdle. The challenges encompassed limited exposure to specific flavors and nature of Container Platforms deployed for Telecom operators, validation constraints for containerized telecom applications on non-developed K8S platforms, and the presence of unique processes and challenges in each end-user environment for deploying platforms and applications

Solution Provided by Microland:

In a collaborative venture with our client, we developed an all-encompassing solution to tackle the challenges hindering the client's platform compatibility and application deployment.

Through consultations with the client solutions team and Telecom operators, Microland built a framework to validate each element of container image, and HELM Charts to ensure any given containerized application is made ready to port to the given target container platform of the customer and aligned to their specific security framework and guidelines. With this approach of a specific version platform, and release, and associated with customer environment-specific considerations for the application deployment,
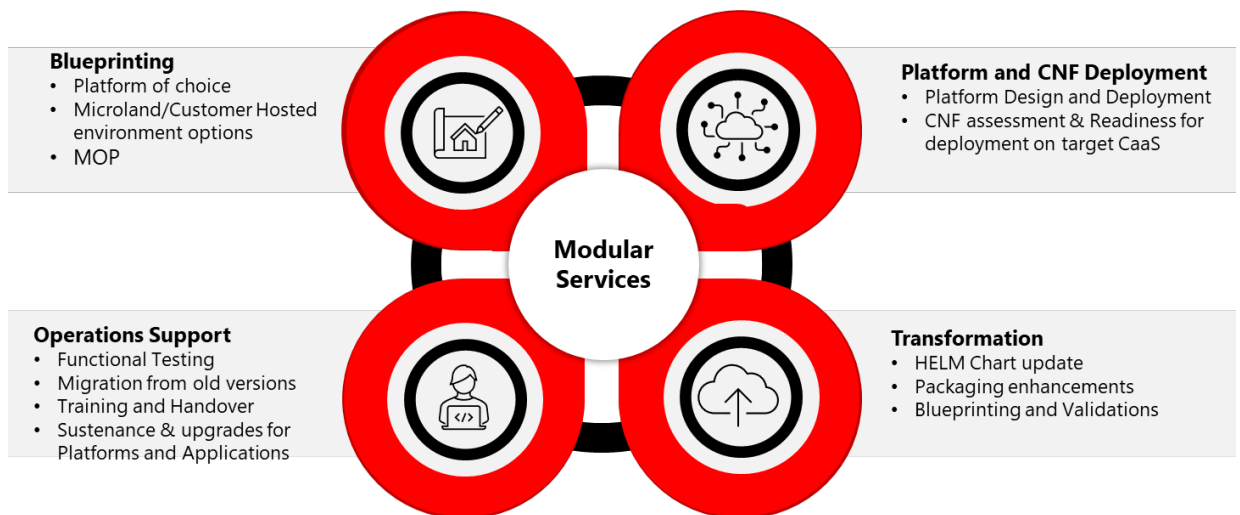
Microland ensured a flawless state of container image readiness.

The creation of comprehensive documentation served as a valuable supplement to existing Installation Guides, streamlining the process. Active support during integration testing facilitated the swift identification and resolution of unintended issues. This collaboration resulted in a versatile service catalog, showcasing the successful partnership between Microland and the client, enabling rapid application deployment on various platforms in the client's Telecom customers' environments.

Together, we devised an advanced containerization platform, leveraging Kubernetes. This joint solution provided agility and adaptability to the client's applications across diverse platforms.

Engagement with the Digital Business Applications initiative, "AnyCloud," involved a comprehensive approach across various stages:

- **Blueprinting:** Evaluated platform options and created a Master Operating Plan (MOP) for a tailored, structured framework in subsequent phases.

- **Deployment:** Ensured environment readiness for client's applications through meticulous preparation for lab and production site deployments in the deployment phase

- **Transformation:** Revamped application infrastructure with updated HELM charts, improved packaging, and language enhancements. Streamlined deployment by automating compatibility validation of Helm charts with K8s versions and expediting image-pulling processes.

- **Operational support:** Ongoing maintenance and configuration updates for client's applications through meticulous preparation for lab and production site deployments.

Blueprinting
- Platform of choice
- Microland/Customer Hosted environment options
- MOP

Platform and CNF Deployment
- Platform Design and Deployment
- CNF assessment & Readiness for deployment on target CaaS

Modular Services

Operations Support
- Functional Testing
- Migration from old versions
- Training and Handover
- Sustenance & upgrades for Platforms and Applications

Transformation
- HELM Chart update
- Packaging enhancements
- Blueprinting and Validations

Our strategic approach involved standardizing and clearly delineating steps and stages for efficient platform deployment and application validation.

The client's applications are now compatible for utilization across a spectrum of major K8S flavors, be it enterprise or cloud-based. Through the integration of K8S platform deployment expertise and other capabilities, Microland can seamlessly execute end-to-end application deployment tailored to end-user needs, whether commencing with bare-metal servers, virtualized hardware, or a cloud environment. This enhancement significantly boosts the appeal of the client's applications, providing tailored business solutions to their end-users.

Outcome:

- **Seamless portability to any CaaS platform:** Telecom core and Business application Solutions/CNF delivered across a wide spectrum of technologies for customers globally:
  - o 20+ unique Telecom core and Business applications validated on various container orchestration platforms such as OpenShift, Robin.IO, Oracle Cloud Kubernetes, Rancher, AKS, EKS, and native Kubernetes.
  - o 15+ industry-leading customers across APAC, EMEA, and the Americas.
  - o 90% Reduction in integration issues found in the end client's environment
  - o 100% Improvement in integration issues found in the end client's environment

- **Faster Time to Market:** Well-defined CNF with HELM and other key project components to align to the target state as part of the project delivery framework and workflows, ensured Microland is able to deliver the CNF to the target platform in ~10 weeks hugely improving the time taken in a traditional approach which was approximately 12-16 weeks.

- **Predictable cost:** Microland's well-defined framework included a predictable commercial model, thus further easing unknowns in delivering complex applications into the target model

- **Automation and Standardization** efforts reducing resources and project timelines for CNF validations and post-deployment app readiness verification efforts by 60%.

- **Knowledge Consolidation**: Leverage Microland's knowledge-sharing patterns and practices to aggregate and consolidate technical artifacts and learnings. This has resulted in delivering the applications much quicker to the critical Telecom environments and bringing standardization to the core of the business.