

Tami COVID-19 Blueprint Family

Despite being the most affected country by corona viruses (i.e. COVID-19), China together with its 5G infrastructure demonstrated enormous potentiality in remaining a global manufacturing powerhouse with unrivaled advantages. Chinese network operator China Mobile have collaborated using 5G technology to facilitate remote diagnosis of COVID-19. Remote diagnosis will help the Chinese government to take better control of the disease and reduce fatalities.

Use Case Details:

Attributes	Description	Informational
Type	New	
Industry Sector	Telco and carrier networks	
Business driver	5G (vRAN, Core) for Tami COVID-19 uses cases. Without Edge Cloud, low latency and real time services cannot be enabled.	
Business use cases	5G use cases for Tami COVID-19.	
Business Cost - Initial Build Cost Target Objective	Edge Cloud should be deployable at Central offices with 7 servers in a single rack at a low cost	
Business Cost – Target Operational Objective	1. In-place upgrade of the Edge cloud should be supported without impacting the availability of the edge applications 2. Edge Solution should have role based access controls, Single Pane of Glass control, administrative and User Based GUIs to manage all deployments. 3. The automation should also support zero touch provisioning and management tools to keep operational cost lower	
Security need	The solution should have granular access control and should support periodic scanning	
Regulations	The Edge cloud solution should meet all the industry regulations of data privacy, telco standards (NEBS), etc.,	
Other restrictions	Consider the power restrictions of specific location in the design (example - Customer premise)	
Additional details	The Edge Cloud Solution should be deployable across the globe and should be able to support more than 10,000 locations	Use case submitters can include files (PPT, DOC, etc...) that explain the use case in more detail.

Use case 1: Remote Center Consultation Platform

China Mobile builds national remote center consultation platform, together with 5G mobile medical robotic vehicle. It achieves multidisciplinary remote consultation, bedside consultation, mobile consultation, so that front-line medical staff can get the help and support of experts at any time. China Mobile's remote center consultation platform includes services from 3,913 medical institutions nationwide, among which 56 are anti-epidemic hospitals. It provides support for more than 30,000 remote consultations. China Mobile has donated 9002 units and intercom terminals, which have been used in more than 1280 hospitals and epidemic prevention units including "Huoshen Shan Hospital" and "Leishen Shan Hospital". National Remote Central Consultation Platform helps Help the People's Liberation Army General Hospital, "Huoshen Shan Hospital", "Leishen Shan Hospital", Taikang Tongji Hospital, and Maternal and Child Optical Valley Hospital to achieve 5G remote consultation and remote B-ultrasound, and full fills National teleconsulting mission for patients with new and severe pneumonia and critically ill patients.

Case Attributes	Description	Informational
Type	New	
Blueprint Family - Proposed Name	Tami COVID-19 - remote medical treatment	
Use Case	VPC, 5G UPF	
Blueprint proposed Name	Remote Center Consultation Platform	
Initial POD Cost (capex)	VPC: 1 Rack with 3 servers, each server with 1 SmartNIC UPF: 3 servers, each server with 1 SmartNIC	

Scale & Type	In the gateway, infrastructure service, and edge cloud	
Applications	Short Video Applications, UPF	
Power Restrictions	SmartNIC: 35W	
Infrastructure orchestration	<ul style="list-style-type: none"> • Kubernetes <ul style="list-style-type: none"> ◦ SmartNIC for Kubernetes ◦ CPU manager for Kubernetes ◦ Huge page support ◦ Node Feature Discovery ◦ Related CNI projects 	
SDN	N/A	
Workload Type	<ul style="list-style-type: none"> • Containers • VMs 	
Additional Details	Submitter to provide additional use case details	

Video and Links for Demo:

Use case 2: Medical Robots Treatment

5G medical service robots provide navigation guidance, logistics and distribution, disinfection and epidemic prevention, intelligent temperature measurement and other services.

Case Attributes	Description	Informational
Type	New	
Blueprint Family - Proposed Name	Tami COVID-19 - remote medical treatment	
Use Case	VPC, 5G UPF	
Blueprint proposed Name	Medical Robots Treatment	
Initial POD Cost (capex)	VPC: 1 Rack with 3 servers, each server with 1 SmartNIC UPF: 3 servers, each server with 1 SmartNIC	
Scale & Type	In the gateway, infrastructure service, and edge cloud	
Applications	Short Video Applications, UPF	
Power Restrictions	SmartNIC: 35W	
Infrastructure orchestration	<ul style="list-style-type: none"> • Kubernetes <ul style="list-style-type: none"> ◦ SmartNIC for Kubernetes ◦ CPU manager for Kubernetes ◦ Huge page support ◦ Node Feature Discovery ◦ Related CNI projects 	
SDN	N/A	
Workload Type	<ul style="list-style-type: none"> • Containers • VMs 	
Additional Details	Submitter to provide additional use case details	

Video and Links for Demo:

Use case 3: Hospital Surveillance System

Hospital surveillance system, real-time monitoring of wards, corridors, cross-hospital and other sites, personnel flow control, making the hospital environment much safer.

Case Attributes	Description	Informational
Type	New	
Blueprint Family - Proposed Name	Tami COVID-19 - remote medical treatment	
Use Case	VPC, 5G UPF	
Blueprint proposed Name	Hospital Surveillance System	
Initial POD Cost (capex)	VPC: 1 Rack with 3 servers, each server with 1 SmartNIC UPF: 3 servers, each server with 1 SmartNIC	
Scale & Type	In the gateway, infrastructure service, and edge cloud	
Applications	Short Video Applications, UPF	
Power Restrictions	SmartNIC: 35W	
Infrastructure orchestration	<ul style="list-style-type: none"> • Kubernetes <ul style="list-style-type: none"> ◦ SmartNIC for Kubernetes ◦ CPU manager for Kubernetes ◦ Huge page support ◦ Node Feature Discovery ◦ Related CNI projects 	
SDN	N/A	
Workload Type	<ul style="list-style-type: none"> • Containers • VMs 	
Additional Details	Submitter to provide additional use case details	

Video and Links for Demo:

Use case 4: Emergency Dispatch System

The emergency dispatch system, China Mobile's "talking" assists medical services, providing emergency dispatch, precise positioning of emergency personnel, unified dispatch of security personnel, fast and efficient.

Case Attributes	Description	Informational
Type	New	
Blueprint Family - Proposed Name	Tami COVID-19 - remote medical treatment	
Use Case	VPC, 5G UPF	
Blueprint proposed Name	Emergency Dispatch System	
Initial POD Cost (capex)	VPC: 1 Rack with 3 servers, each server with 1 SmartNIC UPF: 3 servers, each server with 1 SmartNIC	
Scale & Type	In the gateway, infrastructure service, and edge cloud	
Applications	Short Video Applications, UPF	
Power Restrictions	SmartNIC: 35W	
Infrastructure orchestration	<ul style="list-style-type: none"> • Kubernetes <ul style="list-style-type: none"> ◦ SmartNIC for Kubernetes ◦ CPU manager for Kubernetes ◦ Huge page support ◦ Node Feature Discovery ◦ Related CNI projects 	
SDN	N/A	

Workload Type	<ul style="list-style-type: none"> Containers VMs 	
Additional Details	Submitter to provide additional use case details	

Video and Links for Demo:

Use case 5: 5G Ambulance

The 5G connected ambulances carry out remote consultation. It performs remote treatment, immersive guidance, and helps with the battle against COVID-19 virus. This type of 5G connected ambulances have been hyped as the application of superfast connectivity that will bring about the next revolution in healthcare.

Case Attributes	Description	Informational
Type	New	
Blueprint Family - Proposed Name	Tami COVID-19 - remote medical treatment	
Use Case	VPC, 5G UPF	
Blueprint proposed Name	5G Ambulance	
Initial POD Cost (capex)	VPC: 1 Rack with 3 servers, each server with 1 SmartNIC UPF: 3 servers, each server with 1 SmartNIC	
Scale & Type	In the gateway, infrastructure service, and edge cloud	
Applications	Short Video Applications, UPF	
Power Restrictions	SmartNIC: 35W	
Infrastructure orchestration	<ul style="list-style-type: none"> Kubernetes <ul style="list-style-type: none"> SmartNIC for Kubernetes CPU manager for Kubernetes Huge page support Node Feature Discovery Related CNI projects 	
SDN	N/A	
Workload Type	<ul style="list-style-type: none"> Containers VMs 	
Additional Details	Submitter to provide additional use case details	

Video and Links for Demo:

Committer	Committer Company	Committer Contact Info	Committer Bio	Committer Picture	Self Nominate for PTL (Y/N)
Suzy Gu	China Mobile				
Wenhui Zhang					

Contributor	Contributor Company	Contributor Contact Info	Contributor Bio	Contributor Picture
Tina Tsou				

Contributors: